

Section 2

Brainstorming My Remedial Methods

Chapter 6

*How Personal Beliefs Have
Influenced My Thinking
About Cognitive
Development*

How Personal Beliefs Have Influenced My Thinking About Cognitive Development

Chapter Introduction

My early experiences at school together with the positive experiences in the Pacific Islands, I believe, have been significantly influenced by the way I think about learning and personal development. However, while in the Pacific Islands another very strong influence pervaded my life. In the islands, religion is a major focus of the local culture where we lived. The meaning of one's existence and one's philosophy or origins was very much influenced by biblical frameworks of thinking. I became an avid bible student as I began to read. I found the Bible easy as the sentences were short. I began to understand how many concepts in life lined up exactly with what the Bible said. The following outline reveals how this relationship to the Bible causes me to perceive education from a different perspective to most researchers. This framework has amplified the importance of bonding and external environmental experiences. This experience, combined with my personal educational experiences, have helped me to form a reasonably different perspective to many educationalists

How Personal Beliefs Led To Research

The Bible tells us that man is made in the image of God.(Genesis 1:26) It also tells us that God is not flesh and blood.(John 1:14) In the book of John it says "In the beginning was the word and the word was with God and the word was God ... all things were made by Him." It is clear, then, that man is not a **physical** image of God. The only other quality described is one of language. This model indicates to me that the image of God that we are, manifests itself in the ability to develop cognition, and therefore personality, through language. To me it is clear that this phenomenon is unique to mankind. Animals appear to have a "pre-wired" cognitive processes known as instinct but not the ability to develop the higher cognitive skills such as analysis. An example of this is an experiment conducted by the author where baby rabbits were isolated from the mother and yet developed all the cognitive patterns of rabbits. However, children in isolation do not appear to achieve the same degree of development. This is observed in the orphans found in Romania after the recent collapse of that country's government. These orphans, without sufficient adult human contact, appeared to lack in cognitive development. (Curtis et al, Personal correspondence) However it must be noted, while this provides some evidence,

Language and cognition are the qualities in which mankind images God

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other factors such as the state of malnourishment could not have been thoroughly assessed.

Traditional Innate Ability Concept

Traditional educational thought appears to subscribe to the concept of innate ability which sets a cognitive limit on each person. This belief maintains that innate ability increases for a number of years then the initial process of development diminishes thus providing an individual with a particular ability. It further maintains that, although new skills can be learned, the basic ability cannot be improved. For evidence of the popularity of this belief, consider the number of school students who face educational difficulties and whose teachers choose to teach only the simplest versions of the syllabus but never think about teaching the cognitive skills that would allow the students to master more complex material and possibly help the individual overcome the difficulty. Many educationalists believe that a child either has the ability, or does not have the ability, to learn at a particular level. The concept that some are bright and others are not so bright seems to indicate that people on a wide scale accept the notion that a person is presently what (s)he will ever be. It is my belief that this traditional view of innate ability has little to commend it. My personal experiences, and the people I work with on a daily basis, prove to me that ability **can** be improved.

General acceptance of concept of innate ability indicated by way schools provide work of lower difficulty for those who are not coping with more detailed work. Instead of improving each student's ability to handle the cognitive skills needed

The generally accepted model of innate ability does have a logical relationship to the concept of progressive evolution as within that theory mankind has progressed through genetic improvement and sophistication. It is not surprising then that the existing model is accepted if a person believes that ever increasing genetic data was stored to collectively produce a complex human person from a single cell.

Concept of innate ability is in harmony with the evolutionary platform

Ability is Gained From Environment Through Language

From the Biblical platform, mankind is specifically created and therefore does not need to rely on the concept of genetic evolution model to exist. Therefore it is logical, in the

Language as the programming tool for cognitive development

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Biblical context, to accept language as the programming tool for cognitive development. In this context, cognitive programming comes from the environment through the sensory organs to the brain. Development occurs from outside stimuli producing cognitive potentials in the brain. Richardson states that the development of intelligence is not morphological or physiological. He claims that it resides in the process of social behaviour and organisation...and is present in the mind as cognitive schema or programmes. This, he claims, is a system that can generate an infinite number of adaptive versions and does so through the lifetime of the organism. Richardson claims that the human language system could be an analogy of the adaptive variability of cognitive development. (Richardson, 1991, p127, 128) However, in my view I would take this concept a step further that language itself is the tool of adaptability for cognition.

Vygotsky supports this concept in his notion of historical cognitive development. "Socio-historical development is the process that differentiates human behaviour from that of other animal species. It also plays a key role in the cognitive growth of the individual child. The child inherits the symbol systems of his/her culture and, depending on their complexity, these systems may lead to the development of rudimentary thinking skills (eg counting, simple addition and subtraction) or complex thinking skills (differential functions and skills to solve advanced probability systems)" (Vygotsky in Gredler, 1992, pp 267, 268).

Vygotsky declares the complexity of symbols determines the complexity of thinking

Vygotsky, 1929, maintained that the diversity in symbols leads to differences in the styles and sophistication of a person's cognitive development. Examples, that he uses, compare the relationship of language in New Guinea to suit mathematical pursuits. He explains that the simplicity of their language precludes many of the mathematical functions that we use on an everyday basis. The reason that I have chosen Vygotsky's mathematics example is that it is claimed, by Gardner, who supports the evolutionary platform, that mathematics is a universal language. However, from Vygotsky's observation, it is only universal as people learn the language of mathematics.

Example from Vygotsky relating to mathematics

Gardner Claims Maths is Universal Language, Innately Developed

However, despite Vygotsky's earlier observation, Gardner still claims that mathematics is a universal language which is a part of the seven intelligences that he claims to be innate and therefore common across sociological barriers. Gardner's prerequisite for a theory of multiple intelligences is that it must provide a framework for a reasonably complete range of abilities found across all human cultures. In Gardner's view, this assures a biological, rather than a sociological, link to human intelligence. However, since Vygotsky observed mathematics to be linked with the sophistication of language, it leaves a possible hole in Gardner's model. This phenomenon has been observed in our own centre in dealing with educational improvement program for Kila, a high student from the Port Moresby area in New Guinea. In the first place we believed that Kila had some physiological difficulty which prevented him from coping with mathematics and many other thinking processes. However, after intensive language improvement, it was discovered that there were signs of definite improvement in mathematics and general thinking skills.

A case where improved language led to improved mathematics thus supporting Vygotsky and disputing Gardner's theory that mathematics is an innate intelligence

Kila said of himself that his mind had never imagined the processes he had learned as previously he had no words or language to describe them. Kila also pointed out that he finds it very difficult to feel thankful for things done for him as there is neither word nor body language for "thanks" in any of the five dialects he could speak. While "thanks" is not considered as one of the seven intelligences in Gardner's model it does serve the purpose of illustrating yet another language based attitude missing in Kila's languages.

Other attributes missing because of simplicity of language

Language Improvement the Basis of Cognition

One of the techniques that is used in our centre for improving success in mathematics is to improve an individual's languaging skills first, then to teach mathematical concepts. In some cases no more than a greater sophistication in language has been necessary.

Improved languaging skills alone have improved mathematical skills

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Several Year 11 students have enrolled for mathematics improvement and have improved in mathematics before specialist mathematics tutoring has been given. Language improvement enabled these students to comprehend their mathematics lessons at school.

Daniel, an illiterate 13 year old student, was booked into our Centre and was unable to function in any academic discipline. After intensive language development, both verbal and written, Daniel was able to, for the first time, understand both linear and spacial concepts. For example he found difficulty with numerical order as in measuring and spacial relationships, such as the concept of area and volume. These we discovered when building a go-cart. Since his improvement in languaging skills he is now in the top mathematics class in his school. The only reason he is not in the top class for all others is that his writing speed is slow. This is not a severe hindrance in mathematics but it is in all others

Another example of success following improvement in languaging

Considering these experiences, together with Vygotsky's insights, in my view languaging can be compared to a computer program in that it provides the framework and structure essential for conceptual cognition. Language is the basic program for conceptual cognitive processes. The more sophisticated the language the more powerful the thinking.

The more sophisticated the language the more sophisticated the thinking

The basis of language in developing cognition is also recognised by practitioners who work with learning disabled children. The learning disability that children experience includes deficits in cognitive development. It is recognised in this field that children at risk of delayed development are often those where the child is isolated from peers; where the home is bilingual in the early stages of the child's development; where language is restricted in the home environment either in the amount of communication or in the range of communication. The University of New England lecturer¹⁹ who prepared the course outline and instructional material for teachers learning to teach remedial work also supports the idea that cognition and language are interwoven. (S)he states "Fortunately I have well developed linguistic skills so my thinking is not restricted. But what of the child who does not have the sentence structures we use to think about the future and to hypothesise what might

Children with learning deficits often come from homes where languaging skills are poor

¹⁹ Name unknown to me

happen, to reflect on the past, to sort out cause and effect?
The reader is challenged to try to do these things without
adequate words.”

Since it appears that cognitive skills are developed through
language and not inherited, it is important for a child’s
development to be planned. An ad hoc approach to the
unwritten curriculum of a small child’s education from birth
to 5 years of age can therefore result in variable deficits.

Importance of planning
child’s development

Planning a Child’s Development

In planning, I believe, the following matters need to be
understood. The role of bonding, at this age, with primary
care givers is extremely important as a tool for the child to
learn language and cognitive skills at the necessary pace to
be prepared for later school learning. I believe that children
are born with unstable emotions which serve the purpose of
causing the child to cling to the parent, and in return cause
the parent to be protective of the child thus causing a
bonded relationship. This oneness of parent and child,
where the child identifies itself as a part of the parent rather
than as an individual, causes it to want to model the
parent’s activities. Thus, this bonded process facilitates the
efficient transfer of cognitive models from parents to child.

Role of bonding

However, these concepts are not generally understood by
sisters in Baby Health Centres, preschool and kindergarten
teachers or parents. It appears that many parents are
advised to distance themselves from their children to help
them learn to be independent. I have often observed that
children treated in this way frequently encounter a downturn
in the rate of learning.

Adverse effects when
parents distance
themselves from
children

In my educational Clinic, it is a considered practice that all
clients are accompanied by a significant person with whom
they might bond. In the case of children it is a parent and in
the case of an adult, it is his/her partner. The success of
this practice is undoubted in my observations and in the
opinion of my clients who often express surprise at being
asked to be present and even more surprised when they find
that it works. The Clinic’s continued success depends on
this very fact. If a client insists on not having a bonded
partner, the results dramatically decline.

Bonding works

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Invariably I must build a bond between client and the person selected for bonding. In the case of children the parent-child bonding is usually weak²⁰. In the case of partners (Tolman, 1932) the bonded role takes on the form of carer-cared for. In fact this process may be called "re-childing" a relationship that exists while an adult is building deficit childhood skills

Bonding must be (re)established

I am inclined to believe that a child will change the form of his/her own bonding until eventually, in the teenage years, and when the child can stand alone, bonding will take on a more mature form. It is often frowned upon when children maintain a high level of intimate bonding beyond accepted age boundaries. It is my belief that such relationships indicate a lack of security which arises from incomplete cognitive development. Instead of setting out to break the bond, which is not desirable in a circumstance such as this, parents and advisers need to train their focus on teaching cognitive skills not yet mastered.

The natural course of bonding

Incomplete bonding often reveals itself in deficit of skills that a child will take with it from primary to high school. It is often observed that such children can perform brilliantly in the early stages of primary school but an ever decreasing achievement level is apparent until problems are perceived in grade 6. Parents and teachers often believe that a child is not putting the same amount of effort into learning as in the previous years. Parents are surprised that, when deficit cognitive skills are improved, the child returns to his/her former standard of achievement. In the lower primary school a less sophisticated integration of cognitive skills is required for successful academic performance. In the upper primary years, more complex thinking is needed requiring a more complex cognitive skills network. Thus, children who fail to progressively develop more sophisticated cognitive networks experience ever decreasing decline.

Inadequate bonding revealed in inability to perform more complex thinking

An ever decreasing standard of achievement in high school, from year 7 to year 10. I believe, is often attributable to a poor bonded relationship between parents and their young people. This causes young people to then bond with their peers. Bonding with peers, in my view, does not supply the young person with adult cognitive models such as the concepts of analysis, synthesis, criticism, evaluation and a

Consequences of bonding with peers

²⁰ The CHALK program deals exclusively with children from birth to six years of age, even there we often find it necessary to build a suitable bond between parent and child.

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mature attitude in judgement.

Today, young people are expected to be independent of parents at a very much earlier age than in previous years. A 12 and 13 year old child today has much more freedom in going out alone, with friends, where some years ago a child of that age would only be accompanied by a parent. The more limited interaction with adult models, I believe, inhibits the process of building cognitive skills towards adult sophistication. Thus many students labour at school, relying on the basic cognitive development of the birth to pre-teenage years.

Many teenagers have only the cognitive skills of childhood

Parent Child Separation Due to Economic Pressures

The school system and the economic situation in which parents find themselves are largely responsible for separating parents and their young people. Frequently teachers of my clients, even in junior years, emphasise that all the child does must be done alone. This perception often vindicates a parent's limited interaction with their child leaving the parent free to pursue the economic demands of family. However, from personal experience with my own children, I have found that school projects and homework exercises provide a perfect framework of cognitive interaction between parent and child. Such a process has assisted my own children in verbal interaction assisting them to converse in sophisticated conversation styles. Applying the identical framework to other family situations, as I do within my practice, I have observed the same order of development in other children. This leads me to believe that the school should purposefully design and provide the interactive framework in which parents are able to fulfil their role of cognitively socialising their children. The perception that children should work alone is another example of how the evolutionary model has led educationalists to believe that children possess innate qualities that must be drawn out from resources that already exist within them. The Special Creationist model, on the other hand, presupposes that cognitive resources are developed from the individual's interaction with outside resources. I feel that the obsession with the innate model of cognition has bound my children

Too much emphasis on children doing school work alone

into unnecessary disabilities.

For the school system to take full charge of a student's cognitive development, it would need to provide for each student a caring, bonded teaching model. This is an impossibility in classes of 20 or more students but it could be achieved if schools were to provide parent education assisting parents to effectively model cognition to their children. This could be done in a seminar format so that parents could improve their own cognitive style. I believe such a program could solve the problem of cognitive variation within social subgroups that frequently causes many individual children problems in coping with the academic school system.

Providing bonded learning in large classes

Modelling to Our Children

The bonded modelling structure of teaching is not a new one. Several instances in the Bible indicate the role of parents teaching and modelling to their children. In Deuteronomy 11: 19 – 21 it states that God's commands were to be taught to the children in a particular way. First it indicates that parents' responsibility is to take the role of internalising things that the children need to learn as indicated by the following text:

Bonded, repetitious learning was the recommended method of teaching, in my opinion it still is invaluable

“Teach them to your children, [GOD'S COMMANDS] talking about them when you sit at home and when you walk along the road, when you lie down and when you get up. Write them on the door frames of your houses and on your gates.”

This text is indicating a bonded, repetitious modelling for teaching things that were important to that civilisation. Repetition, in a bonded situation over a period of time, is much more acceptable to children than repetition without the bonded environment that is to them boring and a turn-off. Parents are able to choose opportunities that crop up in a child's life so that the repetition is applied to circumstances and needs within their own environment. The text is not trying to provide literal scenarios where the teaching is done but is purely providing the concept that, in as many situations as possible, parents need to model and teach important things that children need to know.

It is important that parents choose opportunities to teach lessons that are important in the child's life at the chosen time

Overloading Children Hinders Cognitive Development

Overloading teenagers with homework and study, I believe, can also have an effect of curtailing further development of more complex cognitive skills by crowding out of the child's life the prospect of hobby or community involvement. Many of the complex cognitive skills are developed by practical activities. Younger teenagers develop many of the complex cognitive skills through self-directed play. This is achieved by role modelling through hobby activities such as craft work of various kinds, building model train sets, model aircraft, cooking and such like. Constructive community interaction needs to be made available to young people. Activities such as part-time jobs, voluntary service to community projects are all opportunities for young people to model with other adults.

From my experience parent pressure on schools has been a major catalyst for increased homework in some schools. Parents believe that to improve a child's educational development is to increase the exposure of the same kinds of stimulus material presented by the school. However, educationalists need to become more certain and more clearly understand how learning occurs so that parents can be guided into pursuing other activities that will enhance cognitive development that will, in turn, cause learning to become more efficient. Many teachers do not understand the relationship between cognitive development and their major role in the development of learning efficiencies. John Sweller, University of New South Wales, says that many commonly used instructional techniques ignore the limited processing capacity of working memory. This excessive cognitive load interferes with the major learning mechanisms of acquiring schema and automation. Empirical evidence suggests that, if learning is the goal, solving large numbers of problems is not appropriate, what is more appropriate is understanding the problem and the critical pathways associated with it. (Sweller, April, 1993, p1)

On the other hand, it is understood that the overexposure to television does use up much of the time that both homework and hobby activities could occupy. A better balance of lifestyle activities can be achieved by a combination of rational discussion and the utilisation of modern technology

Teenagers need facilities to be able to be constructive in the things that interest them

Homework serves various purposes but should be well organised and limited in duration, overloading can create learning difficulties

Using television for entertainment and to gain cognitive skills

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in the form of a video recorder. By selecting desired programs then recording them, automatically families are released from the tyranny of the television station's programming. Even more important is the new-found ability to have the family view the program as a whole. Even the time used by advertisements is valuable. By turning off the sound, families are provided with time for discussion about what they have been watching, thus, providing a forum for family interaction and hence an opportunity for cognitive modelling. This requires more conscious lifestyle planning which is a central theme of the work done in my centre. Planning for all aspects of one's life leads to effective and efficient achievement. This, in itself, improves self esteem, general motivation and focus. The life-style planning is, itself, an important cognitive function.

Dramatically reduced bonded relationships from primary through to high school, from my experience, often causes a child to start off "on the wrong foot" in the high school. The primary school provides security in that the child has a chance to partially bond with the teacher as the one teacher cares for almost all his/her schooling needs. The sudden change to a multiplicity of teachers, with whom the child finds it difficult to bond, causes anxiety levels to rise as the child tries to cope with a great many variable expectations. The heightened level of anxiety is a factor which lowers neurotransmitter secretion levels thus decreases a child's performance. (Wood in Touyz et al, 1994, p350) If this child also has inadequate bonding at home, both the lack of bonding at home and the anxiety developed at school, in my experience, can be a significant factor in apparent inattention brought about by avoidance of activities with which the child cannot cope and also the incapacity due to lowered neurotransmitter secretions. Evidence of this environmental condition presents itself frequently at the Centre. The improvement in bonding between child and parents subsequently improves the child's learning capacity through lower anxiety levels which produces better attention by enhancing neurotransmitter secretions through a stable environment together with cognitive skills improvement that allows the student to cope.

Inadequate bonding,
anxiety, reduced
neurotransmitter
secretions led to poor
performance at high
school

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Some Causes of Apparent Decline Between Primary and High School

When entering high school many students experience a relative decline in their performance. Parents and children believe that the child's performance, measured in absolute terms, has been reduced. The reality, however, is that the child is now exposed to a larger group of students many of whom were considered amongst the best in their primary schools. Also, the child faces a more hostile environment often producing anxiety. In addition, languaging expectations dramatically rise.

Apparently reduced
performance on
entering high school

Each culture develops its models of thinking through languaging. The more sophisticated models of thinking come from more sophisticated models of languaging. The greater part of this development occurs from birth to five years of age. Children who face the influences of mixed cultures often have academic educational difficulties for this reason.

Sophisticated
languaging more
difficult for children
from mixed cultures

Christian, a Spanish boy of 14 years of age, had experienced a continual decline in academic achievement. In first class, he was an outstanding achiever. In every subsequent year, his marks regularly declined until he faced failure in year 8 of high school. The trend troubled both teachers and parents and resulted in much testing and remedial work. Little success was experienced and it was thought that Christian could need specialist medical intervention. Before seeking medical help, the parents decided to bring him to my centre for cognitive testing. The results indicated that he had only developed partial cognitive models in each of his languages.

Incomplete
development in both
languages

The results of language free cognitive testing led me to develop an intensive program in cognitive improvement through languaging. Within two weeks Christian's test results at school began to improve. This experience, along with a number of other case histories, have led me to understand how important the sophistication of language is in developing cognitive models through childhood. Christian lived in an environment where two languages were presented to him at birth and he had not developed towards sophistication in either of them. Christian learned English through watching programs on television and his parents, endeavouring to learn English, spoke little Spanish in the

Cognitive skills can be
taught

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home. The parents' English was of limited vocabulary and television, filled with action, was inadequate in teaching him English. Christian revealed that when he was not able to understand an English word or expression on television, he would at times note the action and supply a Spanish word or expression. Therefore he did not progress in sophisticated languaging in either English or Spanish.

The need for a sophisticated language base for cognition, I believe, is exposed by Christian's experience. If cognition were innate, cognitive development should have been possible despite the mixed languaging experience.

Cognition is language based, not innate

Cultural expectations either assist or hinder cognitive development. In some cultures girls are discouraged from education. This affects the student in terms of possible life-style goals thus a young girl who has no future use for the education being received will apply little effort to the processes of education.

Cultural expectations affect cognitive development

Rights Movement and Childhood Success

The shift of the authority base, through the rights movements, is also having an effect on educational success within the school system. Many sole and/or career parents place their personal rights and goals ahead of their children's development. They do not always understand that a child growing up without the nurturing modelling and bonding with both parents will often only develop partial cognitive models that are required for a child to cope with the environment. Simon, a thirteen year old in year 8 of high school, was experiencing great difficulty in doing homework. His career mother and father became alarmed when they found that Simon's lack of achievement was not because he was avoiding the work but because he was spending hours achieving very little. On closer inspection, they found that he had great difficulty in following sequential steps involving mathematics, planning for essays or carrying out scientific experiments. At that point, they became aware that he could not follow sequential instructions to assemble simple scale model kits. He would often start but lose interest. Around his room, there was a multitude of hobby projects started but never finished. The parents became

Pre-school children are often denied the bonding and modelling required for effective cognitive development

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aware this was also happening in his school work. Much started but little finished. On testing Simon, it was found that he was noticeably deficient in motor integration, sequencing and attention skills which are established through focused planning. Each of these skills is usually developed through the child's pre-school years. On explaining this fact to the parents, they revealed that Simon, for most of his pre-school years, was cared for by a "nanny". Being an employee, the nanny perceived her job as serving the family. A part of this service included waiting on Simon for every need. Instead of guiding him to organise his room, clothes and play activities, she laid out his clothes, dressed him, cleaned up his room leaving the boy with little planning to do for himself. Thinking of herself, nanny encouraged Simon to pursue only those leisure time activities that, in her view, were clean and absolutely safe. This meant that Simon spent most of his time watching television, videos and playing electronic games as this suited the nanny.

As in Simon's case, the preoccupation by parents in personal goals often leaves children without systematic guidance and philosophical direction. Being insecure, children will often look for a benchmark from which to judge their own social progress. I believe many children cannot help but be influenced by commercial interests who tell the children what is in and out of fashion. One example is an advertisement on television which states "Everyone hates school, but nobody hates our instant drinking chocolate". Such glib messages cannot help but be internalised as small children often believe what they are told. Hence cognitive models are developed regarding certain social institutions even before the child has personal experience.

Assumed authority taken by governments often change an individual's chance for success. Parents who do not want their children to become prematurely sexually active are told on television that sex is OK provided it is safe. Thus, many children are led into early emotional conflict between society and parents. This tends to alienate the child from the parents thus reducing the modelling influence that the parents have on the child's life. Early involvement with sex presents emotional difficulties that can lead to high levels of anxiety and therefore reduce an individual's propensity to learn, develop and model from parents or teachers. In my role as Assistant Deputy Principal of a high school, one of my duties was to oversee the school discipline policy. Many students, whom I interviewed in that role, were facing failure

Young children need parental guidance to correct the impression left by some unscrupulous advertisers

Causes of breakdown of school effectiveness: Advertisements intended for one age group but seen by a younger age group

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at school as a result of emotional disturbances brought about by immature sexual experiences. Michael S, one of these children, has been caught up in conflict between parents and social permissiveness. Now, at the age of 26, he realises that sex has been the centre of his life, thus, dwarfing his ability to succeed in life. He moves from one emotional hurt to another.

Children's rights promoted by social interests inhibit authority at school and discipline at home. Students, in their own right, being able to take legal action against teachers and their parents has placed both parents and teachers in a tremendously conflicting situation. The problem with this situation is that young people can use these newfound powers to "get even" with parents and teachers for making decisions that displease them although the decision may have been a responsible one given an understanding of the situation. Even if the teacher or parent successfully defends the action he/she suffers severe emotional trauma.

Causes of breakdown of school effectiveness:
Children's rights

An example of a parent related situation is that of a well known minister of religion in one of our major cities. The minister and his wife required their 15 year old daughter to be home at 10.30 pm when going out. The boyfriend believed that this was an imposition on the girl's rights and laid a complaint to Department of Youth and Community Services. The resulting action was that the girl was advised by the counsellor to move her goods, when her parents were out, and take up residence in a home selected by the Department. On returning the parents found the girl was missing and picked up a letter from the Department stating their action. The charge against them was emotional harassment; a charge that had been laid without any investigation regarding the claim. The parents were therefore forbidden to contact their daughter under any circumstances, at the risk of further charges. The only access they had was through the counsellor who had no interest in resolving the situation. The parents therefore took action against the Department and finally gained access to their daughter at much emotional cost.

Causes of breakdown of family influence on young people: Official action taken without independent investigation

In this legal climate it is very difficult for parents and teachers to effectively model cognitive behaviour to the children in their charge when the teacher or parent has little authority over the child's actions. Teachers spend much of their day walking the tightrope negotiating behavioural

Causes of breakdown of school effectiveness
Inability to effectively control behaviour

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expectations thus inhibiting the teachers' role as an academic model. Cognitive development is not a pursuit that the young will pursue for themselves but requires the rigour of benevolent discipline. In many ways both technology and social attitudes, developed through ignorance of the need for guidance in cognitive development, are causing many learning and coping difficulties. Thus, society in many cases, I believe, is artificially creating learning difficulties.

Cognitive development is often misunderstood by educationalists and social workers. Many believe that cognition is developed innately and therefore there is little that a teacher or parent can do about improving it. It has been my personal experience, reinforced by my personal observation of over 400 clients who have changed from being no-achievers to become achievers, that cognition is able to be enhanced through conscious learning processes. It is my belief that education needs to emphasise cognitive development in order to equip individuals to pursue learning for a lifetime.

My experience is that cognition can be enhanced through conscious learning

Introduction to Research

A great many theorists have based their conclusions upon the premise of innate ability. Gardner, Pavlov and Maslow, to name a few, presuppose that when viewing the educational development of human beings that we are observing the maturation of an innate set of cognitive processes driven by genetics. This premise arises from either the conscious or unconscious acceptance of the perceived evolutionary process. However Vygotsky, while he accepted some elements of evolution, did not take this position as he viewed the development of cognition as based upon languaging. He saw a distinct separation between the development of animals and humans. The observations of this thesis empathise with the position taken by Vygotsky which presents an alternative perspective to that generally accepted by most educational theorists. The background to this perspective is influenced by my beliefs that have become a part of my theory leading related to my teaching practice. I believe that human beings develop cognitively in a way different from other animals. Human beings develop cognitive processes through language. This phenomenon allows mankind to have freedom of choice and allows an

Humans develop cognition through language

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individual to develop identity and individuality.

Considering the above, I believe that from birth individuals all have the potential of developing, through language, equal cognitive status. However, individuals do not all attain identical intellectual status. This phenomenon, I believe, is due to several factors including genetic malformation, disease, social inequities and chemical interference.

Humans start with the potential to develop equal cognitive status

A personal belief which underpins my theoretical notions is that the reason for unequal development of cognitive, and other skills, is caused by sin. The notion of sin also supports the rationale for disease and the imperfection of the human person. Social inequities are also attributed to mankind separating him/herself from the perfect mind patterns originally intended by man's Creator. Today the evidence of man's interference with nature itself is undeniably a current issue of our society. This interference, I believe, has exposed man to chemical imbalances within the body and is a factor in creating cognitive developmental barriers. It must not be overlooked that a great deal of this chemical manipulation has also been a factor in discovering ways of overcoming some of the disease factors.

Sin the basic cause for unequal development

Thus the difference in my platform on learning revolves around the concept that cognition is a factor of the present, and depends very little upon past genetic influences. My views are unlike Gardner's in that he views cognition to truly be cognitive development only if it has a biological basis. By biological basis he means that actual cognition has genetic roots in the past development of the animal kingdom. Genetic variations, I believe, do influence cognitive development in a number of ways, some result in the malfunction of mind or body. Some people inherit a high neuronal speed and others lower levels of neuronal speed. Such stylistic differences as neuronal speed do not necessarily need to inhibit learning. (Dr Lazar Stankov, in Dayton, 1994) Inhibition in this respect can come about through social perceptions that relate to the notion of intelligence. It is believed by some that intelligence is marked by high levels of neuronal speed. Dr Stankov of University of Sydney disagrees with that concept and has seen fit to refute it. (Dayton, 1994, p4) If this notion is carried to its conclusion it excuses educational systems in only providing a single time factor for learning rather than attending to the variant time requirements for individuals

Cognition is a factor of the present and depends very little on past genetic influences

How Personal Beliefs Have Influenced My Thinking About Cognitive Development

with different time/learning requirements.

The platform on which this research is based relates to the principles I use in my cognitive Clinic. For each client I search for the causes of interference to the cognitive functions and I remediate those causes. In every case I assume that the client has the potential for excellent cognitive processes, as designed in a perfect creation. Within this framework of thinking there is no place for discarding any individual and excusing oneself professionally for ignoring individual needs on the basis that an individual is deemed to be genetically less developed and therefore incapable of coping with the learning system. Part of this thesis will describe ways of overcoming those things that interfere with the development of cognition. It is the purpose of this research to look at possibilities of developing strategies to alleviate the effects of malformation, malfunction due to disease and to recognise social barriers that inhibit an individual's potential for effective cognition.

Thesis will describe ways of overcoming things that interfere with development of cognition

The question I often ask myself is "What is the difference between myself and many other people facing learning difficulties?" I look for the answer by reviewing the course of events which has led me to my present academic standing. In this research, I reach back to significant events in my life and I have endeavoured to make sense of my remediation by investigating possible relationships between available research and those significant events.

I will combine events in my life with available research

Summary of Key Beliefs

The events in my past experience that I believe have significantly influenced the way I think about education include: an understanding of how traumatic cognitively poorly equipped can be for a child or adult trying to learn; realising how inappropriate school life is for a person with gross cognitive development problems; perceiving the negative effects of anxiety on learning; understanding the positive effects of modelling and bonding in cognitive development; recognising how the withdrawal from the regular schooling system can create a motivation to learn once the student begins to cope cognitively; realising how the development of a positive self-image will motivate the learner to overcome almost insurmountable problems and recognising the need for teachers to become better at

Summary of key beliefs

diagnostic processes together with being empowered to act.

Chapter Conclusion

As it can be observed, my model of cognition development through language from external sources, as influenced by my theory loading, makes environmental influences extremely significant in child development. This framework of thinking allows me to pre-suppose that cognitive development to be subject to improvement and that environmental influences will greatly affect the success of cognitive development in the subject's early years. The bonded relationship also aids the effectiveness of learning through modelling. Therefore my perspective on learning considers modelling to be central to efficient learning.

I have become well aware, as a result of my reflection of the past, how much of my present decisions are framed by the theory loading accrued over the years. I believe that my religious and biblical beliefs have caused me to develop a certain perspective on overall development and my past experiences have provided me with empathy and understanding of various learning disabilities.

Having personally experienced learning difficulties and then overcoming my deficits has convinced me that cognitive functions that were once poorly developed have now been remediated to a satisfactory level. Being older improving these cognitive skills has made me more aware of the constituent parts of cognitive development.

Having established a clear understanding of my philosophical platform and how I have come by this framework of thinking, I now proceed to discover how others can enlarge my philosophical model.

Chapter 7

Towards a Cognitive Emphasis in Learning

Chapter Introduction

From my childhood experiences in solving my learning difficulties, I have become conscious of the need for deliberate rather than accidental cognitive constructs of the mind to be established for the most efficient personal function in the environment. At birth, deliberate intervention on behalf of the parent and significant others, triggers the very early biological connections that allow for the basic sensory stimulus–response modality to access the environment. For example, if a child is deprived of seeing for an extended period after birth, connections for sight will not occur. (Lemonick, 1995, p57) This is so for many functions. Deliberate languaging is necessary as a vehicle for developing extended cognition in the child’s cognitive development. Extended languaging for the remainder of one’s life is the key to enhancing cognitive networking sophistication. (Bross 1973, p217 in Halpern, p15) Through languaging and modelling deliberate cognitive constructs can be developed in a child’s mind that relate to cogno-physical performance of the child. This is the child’s ability to think and do. Once the child is confident about his/her orientation and function in the environment, higher order thinking situations of the mind can then be attended to.

If we lived in a perfect world, such balanced development would occur naturally. The fact is that we do not live in a perfect world and not all participants in society develop a very well balanced set of cognitive constructs of mind sufficient to adequately cope with the environment.

The ever increasing rate of technological change is placing further obstacles in the way of consistent, even, cognitive development in the emerging person, if the dynamics of such changes are not understood. Thus, it is my belief that emerging learning difficulties could have a significant link to cognitive development variances.

In the light of the above viewpoint this chapter is a process of juxtaposing ideas from other researchers and brain storming concepts that might lead myself, teachers, parents and young people to a conscious understanding of the many structures in life that one can take advantage of deliberately participating in activities that will extend one’s cognitive development thus enabling one to be more able to cope with life. We also must understand the situations that would cause hindrance to our development. This is an awareness building section of the thesis, both for myself and for others.

Since this is essentially a brain storming activity not all conceptual features are going to be fully supported,. However, a great deal of my reading has emerged as part of this process.

How and When Is Cognition Developed?

The arguments concerning how best to raise children are the subject of a great many books and occupy a large sector of the publishing market. The issues are hotly debated by a great number of researchers, educationalists, doctors and influential parents. The views range from innate developmental concepts to active child development through adult intervention. However Vygotsky, in his research, demonstrates “No one single set of principles can explain human cognitive development. For example single factors such as stimulus–response, bonds and maturation are insufficient explanations.” (Gredler, 1992, p268)

Vygotsky says no single set of principles can explain human cognitive development

Bronfenbrenner, an education researcher, holds the following view, “It is good for the child to be everyday in the company of people who are crazy about them, and with those who are not crazy about them. The child needs mothering and fathering and to experience even some lack of interest in them by others. The child needs all of these experiences.” (In Ahrens, 1992–3, pp4, 5)

Bronfenbrenner says children need a wide variety of experiences

Cognition Is Developed Through Modelling

It is suggested by Michael Ahrens, a long–serving cognitive remedial educational specialist in the Health Department N.Z., that parenting provides stability, stimulation, emotional and relationship models. Such interaction, he claims, helps children to understand that the complexities of our environment can be made simpler through developing cognitive models that are known as problem solving strategies. An ability to use the mind to simplify and make meaning from our environment I believe, along with these researchers, is the essence of cognition. (Ahrens, 1992–3, pp 4, 5)

Michael Ahrens lists important features in the role of parents

Evidence of Cognitive Development Through CHALK

CHALK; *CH*ildhood Assessment Learning Kit

Without appropriate intervention it has been found that this

Cognitive development

Towards a Cognitive Emphasis in Learning

childhood cognitive development does not, of itself, develop. This is supported by Bradley et al, 1989; Gross, 1990; Lepper and Gurtner, 1989; (all in Sroufe et al, 1992, pp 50–56) agree that people are of primary importance to a child's development because they interact directly with the child. It has been shown by these academics that parental intervention is related to an enhanced pace of cognitive development. Singh and Ahrens, in their research, have concluded that cognitive intervention is of such significant importance that they have developed a computerised cognitive development program for parents to monitor and program their child's play activities in order to develop socially desired cognitive skills. Ahrens research has been validated over the last 20 years through his work with a great number of disadvantaged children remediated by the N.Z. Health Department. Originally Ahrens was working with separate developmental scales on an individual basis. He found that the time taken to use the scales was so inefficient that remediators failed to secure reliable benchmarks for cognitive remediation. To obtain a complete view of the child's cognitive profile, a number of scales had to be applied. Prior to Ahrens' work most professionals believed that the developmental scales purely indicated development achieved. Ahrens, on the other hand, believed that the scales could be used to monitor and teach developmental cognition. By computerising the scales and then assigning developmental tasks to teach each developmental skill, Ahrens found that significantly more efficient progress was achievable in remediating developmental processes. (Personal discussion with Michael Ahrens, 1995)

does not occur in childhood unless there is appropriate interaction with people

Cognition Does Not Occur Innately – Environmentally Based

In the light of the above research there is a strong indication that cognition does not just occur innately but is socially developed from birth. The lack of human intervention for the Romanian orphans appeared to directly result in deficient cognitive development. (Curtis and Curtis, 1991, Personal communication) This, together with the N.Z. research that demonstrates the effectiveness of organised cognitive intervention, supports my view that language based on human intervention is the basis of sophisticated cognitive processes experienced by human beings.

Strong indication that cognition is socially developed through language from birth

A newborn baby does not immediately possess languaging skills but appears to react to its environment in a basic

Children develop beyond reliance on

Towards a Cognitive Emphasis in Learning

neuronal way – stimulus – response. As Pavlov discovered stimulus – response is the basic neural activity of animals generally. While non-human animals continue into adulthood to rely on the stimulus response model, the human animal is quite different in that it relies on language to develop sophisticated cognitive activity. (Vygotsky in Gredler, 1992, p263)

stimulus–response

To achieve language development the bonded relationship of the parent sensitises the baby's neural sensory system. "Every day family members directly interact with the child stimulating language development and other cognitive skills." (Elardo, Bradley, Caldwell, 1977; and Wacks, 1976; in Sroufe et al, 1992, pp 50,51) The baby becomes immediately conscious of touch, smell and sound thus responding to these stimuli. The young child is also stimulated by its internal chemistry. The child senses hunger, pain and change in temperature. Its response to these stimuli is to cry. which is the child's in-built immediate means of communication aimed at the cognitively developed adult carer. The reaction of the carer begins to develop patterns of behaviour which the young child cognitively programs and builds anticipation as to the results of its communication. (Sroufe et al, 1992, pp 191–193) Thus the baby begins to develop cognition via the initial stimulus–response mode. As the child grows it begins to perceive verbal patterns as they become associated with the adult's modelled behaviour. The adult carer begins to model both language and the way a human being thinks through language.

Parent–child bonding initiates patterns of behaviour in the child

As language becomes more sophisticated, in my view, the frequency of an individual acting purely on a stimulus–response basis is conserved mainly for emergency and protective reactions that a human has to the environment. Other stimuli experiences for human beings who have well developed languaging skills would be involved the cognitive procedural structures before a response is enacted. From this model one can appreciate the role that experience has in developing a human being's cognitive efficiency. Vygotsky supports this view in his model of historical development. (Vygotsky in Gredler, 1992, p263, pp 267–268)

Humans retain stimulus–response for protective reactions

In Vygotsky's model of child development, the first number of months of a child's development are centred on the biological factors which include the development of the central nervous system along with physical growth and maturation. The second stage of development he calls "socio–historical". The

Vygotsky says socio–historical stage of child development is the differentiation between humans and animals

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socio-historical development is what differentiates humans from other animal species. This, he says, plays an important role in a child's cognitive growth. The symbol system of the child's culture is what (s)he masters in this stage of development. It is through the cultural symbol system that the child is able to develop simple thinking skills if the culture's symbol system is simple. If the culture's symbol system is sophisticated more complex thinking skills are more able to be developed. (Gredler, 1992, pp 267,268) In adulthood the development of new technologies can cause the human animal to add to the sophistication of this language and thinking processes.

From literature research, personal observation and relating many of the traditional developmental theories it appears to me that the human being first relies on the stimulus-response principles alluded to in Pavlov's research but for initial learning only. The human baby depends upon reflexes and primary and secondary circular reactions²¹ until eight months of age. These reactions and reflexes parallel the stimulus-response model. From eight months to eighteen months, together with a dependence on reactions to stimuli are found limited cognitive functions such as a child becoming goal directed when reacting to a stimulus. Increasingly the child depends less on such a stimulus-response model and increasingly develops representational thought such as imitating adults or older siblings. While the infant has not fully developed languaging skills in terms of speech languaging is emerging as an alternative to stimulus-response (Sroufe et al. 1992, pp 160-165) Vygotsky, in the 1930s supported this view. (In Gredler, 1992, pp 265-266) Further sophistication of language, I believe, is well described by Donald Cunningham in his semiotic model. (Cunningham, 1992, pp 167-170) This model accounts for language and cognitive development through a child's interaction with the environment in play and socialisation through adult modelling.

I see three stages of development

Play enables a child to experiment with his/her environment. Constantly interfacing with the environment the child has the opportunity of viewing things and ideas within the environment from many points of view. Cunningham's model of semiosis involves the continual

Role of play is to view things and ideas from many points of view

21 Circular reaction occurs when a baby accidentally activates a function and reacts to it by causing it to happen again and again.

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adding of interpretants²² about objects to the mind until a sufficient number are programmed. (Cunningham, 1992, pp 173–174) At this stage relationships between one interpretant and another may be built into more accurate cognitive models of the world around the child. This is known as developing sign networks. The more sophisticated the network the greater knowledge the individual has about his/her environment. This will, in turn, provide opportunity for increased vocabulary expansion.

Play provides the essential motor integration²³ that enables an individual to think and then develop strategies by which one can interface with the environment. Thus, in my view, play helps the child to interface with the next stage of cognitive development and that is to manipulate thinking by language in the form of the information processing models.

Play helps child interface with next stage of development

Information processing models are valuable for developing cognition and are based upon reading and writing. They enable an individual to develop more complex thought processes by being able to structure thinking in a fixed and formal presentation so that it may be viewed in a static form. Thinking outside the information processing model is forever changing and is thus difficult to fine tune and to add sophistication and accuracy to the models being developed. In older children and adults, both the semiotic model and the information process model work side by side to continually improve cognitive thinking pathways.

Information processing models provide static form of thinking

It could be asked why do we need to investigate cognitive development in children for their future well being when, in years gone by, cognitive development appeared to occur, as people like to say, “naturally”. There are several reasons that the study of cognitive development is important for successful childhood development in today’s social environment. Schools and those of an older age group still expect students to become fluent readers, writers and arithmeticians. However, technological development has influenced the young to regard these skills as of less immediate importance. Therefore, the expectations of the education system have become less in tune with its clients.

Why it is important to study cognitive development

22 An interpretant is an individual feature of a particular thing as opposed to a sign or a signal which is the internalised aggregation of interpretants

23 Motor integration is the connection between critical pathways of thought as they direct motor function. Interaction between the environment and the individual teaches the individual critical thought regarding the action.

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For example, the emphasis in young society is leisure, non academic image and taking things to excess. The expectation of the school is denial, moderation, academic success and industriousness. Writing in society is now displaced by verbal interaction, reading is now displaced by seeing pictorially, arithmetic is displaced by the calculator. With all these changes, the school has not addressed the fact that society is no longer the practice ground for what is taught at school. Since society is no longer the practice ground for activities relating to school, it therefore follows that society is no longer naturally the preparation ground for young children entering the school system.

Cognitive skills development must now become a part of the conscious family curriculum. While the young appear to “get by” with diminished development of cognitive skills, we must recognise that it took the use of cognitive skills to develop present technology. This same technology is causing deficient skill development. To maintain this technology in the future, and to develop further technology, the full development of cognitive skills will be necessary.

Present day technology is supplying less efficient skill development than society provided some years ago

Influence of Technology on Cognitive Development

The reasons for change among the young can be directly related to parental use of modern technology. Mothers can now be freed from frequent need to interact with their child. The very young child can be amused for long periods of time by electronic “comfort aids”. Soft music, mother’s heart beat simulators, cradle rockers can free the mother from being tied to the young child. While mothers may be able to get more work done the task of modelling to the child cognitive skills through frequent parent communication remains only partially completed. As the child grows older the television and video become “ideal” baby sitters. While he/she may become transfixed to the movement and excitement of the visual image, the child remains merely a viewer of activities rather than a doer. Thus a deficient cognitive pattern has been programmed. What a child does at a very young age prepares it to do the same throughout life. For a child to enjoy reading, the parent needs to have modelled reading practice. For conversation to be developed, the child requires the parent to model conversation to it. For convenience, parents have modelled a behaviour to comply

What a child does at a very young age prepares it for what it will do in later life

Towards a Cognitive Emphasis in Learning

with their own interests. But when the child has grown, the parent expects the child to meet his/her expectations that are pre-supposing quite a different cognitive training environment.

Most of a child's cognitive development is established through role modelling in play and interaction with parents. Modern technology, such as television, does not encourage the child to actively practise role modelling thus the child is aware of social activities but does not always develop the cognitive skills to carry them out. Watching netball on television does not develop the motor integration that playing netball brings to the player's development. Viewing imaginative and highly stimulating stories does not teach the child how to imagine when it does not need to in order to entertain itself. In these examples of both childhood and parent-relationships to technology, the child is only learning a limited number of cognitive skills and the parent is not aware of the importance of their own modelling in developing the child's cognitive skills.

Watching does not develop the motor integration to do

Parents and schools have not recognised how social change has been brought about by modern conveniences and have not instituted a compensating program, either at home or school, to offset the effects of deficient cognitive development as a result of such conveniences. However, a significant number of individual parents are beginning to recognise cognitive deficits, even though not fully recognising it in a formal way. They are demonstrating their awareness by choosing to purchase aids and programs that develop missing cognitive skills. For example, kinaesthetic classes, such as Kindy Jimbaroo, Sound Therapy, Psychodrama and action, sound music stimulation programs. The mere fact that they exist and flourish today demonstrates the viewpoint that school is not providing for, or recognising the need to improve, cognitive deficits within children.

Schools and parents have not consciously realised why programs that provide for missing cognitive skills are so popular

While cognitive development is affected by social technological practices, the very learning mechanism through which the skills may be enhanced is also markedly affected. The bio-chemical implications of our new technologies have a great deal to do with children seemingly unable to make up cognitive and then academic deficits. Take for example, the effect of high level stimuli activities such as video and computer games, video and television programs. Such activities place an imbalanced demand on the endocrine and neuronal systems.

Not only are cognitive skills less developed but also the ability to improve those skill is severely impaired

Towards a Cognitive Emphasis in Learning

Most of the highly stimulating electronic media activities emphasise excitement over achievement. Excitement calls upon adrenaline to raise the energy levels of the neuronal system so that higher levels and speed of neuronal responses are possible. This, in normal circumstances, increases awareness and therefore enhances learning. However, efficient learning can only occur where an individual actively participates in the activity. Television viewing is, for the most part, a passive activity. However, it calls upon the adrenaline to increase neuronal activity but since there is no participation in the activity itself, as soon as the stimulus, the program in this case, is removed the adrenaline level diminishes, thus leaving the individual in a moderately depressed state. Where practical participation is a part of such activities, when the stimulus is removed, the success of practical participation provides endorphins to continue the sense of pleasure. Endorphins are an opiate which, while providing the sense of pleasure allow the neuronal system to recover from the effects of excessive adrenaline. It also masks depression that is caused by the decline in adrenaline levels. Without endorphins the individual facing the let-down after the high, seeks even greater stimuli to repeat the pleasure sensation gained from adrenaline. Each successive time the individual accesses a new adrenaline experience the next experience must be more impressive and exciting. Such individuals become conditioned only to high level stimuli and the normal stimuli of life are insignificant and hold little sway over such an individual. It is through this means that many young people today become unmotivated toward everyday learning. The kinds of stimuli that are appealing to them provide a very narrow cognitive development. Therefore, the difficulty is initially motivating such individuals in order to improve the areas of their cognitive deficit so they can gain an understanding of how enjoyable academic work is when coping mechanisms are improved.

Adrenaline vs endorphins as a major difference between newer and traditional childhood, and adult activities"

At the same time, as commercial interests are turning up the stimuli to attract young people to buy, the education system has become oversensitive about young people being exposed to high stress levels at school. Thus, commerce is increasing stress through over dosing on adrenaline and the education system is decreasing motivational stimuli by reducing the fear of failing to achieve goals. The high stress levels produced by commercial interests do not provide an outlet through pleasure of achievement. For such activities, the achievement is but hollow and transitory. The participant does not experience stress relief through endorphins. Endorphins are hormones that, when a person achieves

Commerce uses adrenaline to stimulate education systems are decreasing motivational stimuli

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success of some type, are secreted and thus confer a sense of pleasure at a much lower level of energy usage than adrenaline. Endorphins mask the depressive effects of decreasing adrenaline.

Thus, the participant constantly desires high degrees of stimulus provided by some outside source and is bored with anything less. Learning by anything less than TV presentation, or some equally stimulating method, fails to provide the desired stimulation and is therefore “boring”.

Why anything less than highly stimulating material is “boring” to young people

Understanding the Role of Fear

Meanwhile, authorities within the NSW education system, and elsewhere, believe that stress levels need to be lowered. Educationalists are trying to achieve this by reducing the emphasis on achievement which will also reduce the fear of failure. The fear of failure is a necessary high level stimulus designed to protect an individual from imminent lifestyle harm. Using fear of failure to drive students to experience achievement and the resulting endorphins provide an outlet for the stresses caused by the effort to achieve. Not only that, endorphins provide an outlet for the stresses that plague people within a commercial society.

Fear, not anxiety, has some positive values

If education systems decide to increase the stimulus of possible failure and simultaneously teach cognitive skills in a direct manner, that will assist the individual to avoid failure, students will be galvanised into positive action. However on the other hand, if it is left to commercial interests to provide motivation through high level stimuli to prevent the younger populace from being bored, the student is going to be demotivated towards school and mundane things of life. Commercial stimuli lead to no achievement and therefore to anxiety caused by declining adrenaline without matching effect of endorphins. The resulting depression promotes low motivation to face the real issues of life. By busying students with achieving, it automatically acts as a safeguard against the indulgent excesses of commercial sensory stimulation. Providing cognition training should be a major feature of the school system, young people should be taught how to actively develop strategies to avoid the consequences of their fears. Thus, a motivated youthful society will emerge. The failure to motivate those at school toward success will provide a ready market for adrenaline junkies and a non motivated youthful

There are two choices. use fear in a constructive way or leave it to commercial interests to provide stimuli that will cause students to be demotivated towards schooling and mundane matters of life

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society.

The bio-chemical implications for those young people effected by the present educational and commercial media structure is one of concern. If parents or teachers do not intervene, the child will continue to seek ever higher levels of stimuli. Eventually, the body will not produce sufficient adrenaline to provide the high level required. Once this point is reached, the child will look outside his/her body to supply the kick. Since all neuronal activity has been oriented toward adrenaline driven sensory stimulus, reason is no longer a part of the decision to take the next step. That next step is likely to be drugs. The other alternative for those who lose motivation in life is suicide. Life can no longer provide motivation to live. Children who become desensitised to the stimuli of real life find it difficult to learn.

Bio-chemical
implications of
dependence on high
level stimuli

For a young person desensitised to real life stimuli, the only way I have found to reinvigorate the individual to learn is to use the bodies natural protective stimulus, fear. Fear to the emotions is like pain to the skin. It is through well directed and useful fear that one is able to re-sensitise a child to the real world once again. Fear, the ingredient taken away from the education system is one of the basic ingredients of motivation. Without well directed fear – no motivation.

Positive use of fear

For the above reasons, each family needs to develop a well thought out cognitive curriculum in order to wisely use modern technology for the child's benefit rather than for the child's hurt.

Families need a plan to
use modern technology
beneficially

Technology Has No Propensity for “Good” or “Evil”

Modern technology is often blamed for the challenging of moral, educational and social institutions. It certainly can be demonstrated that in many cases unwise use of many modern technologies can greatly hinder effective learning and cognitive development. The fact remains that in themselves the technologies have little propensity for good or evil. It is the use that we put them to that creates the difficulties. It is because older folk, including parents, often reject active involvement in the use of modern technology that they pass up the opportunities to influence the use made of these new technologies. When problems are

When parents shun
modern technologies
they lose the
opportunity to derive
favourable
consequences

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encountered, attitudes of parents are not called into question but the technology is blamed for the adverse effects that it has upon their children. Most technologies have significant educational benefits that can be used to even accelerate learning.

The computer is a technology that has often been hailed as an enemy to intellectual development. Parents often claim that their children become addicted to the cognitively narrow but highly stimulating computer games. While it is true that many children experience deficits in their cognitive development as computers have kept them from essential outdoor play and have used time that is needed for reading and other educational activities, the final consideration rests with how well the parents in control have included the computer as an overall educational tool. If the child's upbringing is not bound by well considered philosophies and there is not a conscious life-style educational curriculum for that child, it does not matter whether it is a computer or some other distraction, the outcomes are similar.

Flexibility of the computer is a strength in education that we have never had before. The ability to language and touch and retouch our language has been a process available, in the past, only to painters. As a painter is able to build a masterpiece so now each child is able to produce masterpieces in languaging, as it has never been possible before. A child is able to write down his/her own thoughts and the parent is then able to vary the original words so as to include more sophisticated models of languaging without the child's original efforts being erased. A great deal of fun can be generated in progressively building word pictures over time. These can be used as the basis for expanding a child's vocabulary, knowledge of languaging and an appreciation for the artistic medium of language. Language is so perceived by children as the frustrating thing that we do when we have to. The computer has taken this away, if used wisely.

A practical example of the above concept has been observed in my remedial learning practice. Young people who have been completely discouraged about languaging have responded well to being reintroduced to languaging through the use of word processing on the computer. Everyone enjoys talking about things that interest them. After generating enthusiastic discussion regarding a young person's interests, I draw his/her attention to the fact that each person's ideas, recorded, can contribute a great deal to other people's development and enjoyment. For the purpose

Computer often seen by parents as a toy for highly stimulating but time wasting games

Story writing can be done co-operatively on computer with parents helping to greatly improve language skills

Practical example of using word processing to increase languaging ability

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of proving this point, I keep a large folio of other students' masterpieces. Together we leaf through the examples, choosing one that interests the young person. Reading the example together we enjoy sharing the new thoughts that the other unknown person had contributed to our mind. This corporate pleasure experienced by the student, parent and myself generates enthusiasm for that student, aided on the computer, to do the same. The motivational image of the computer, together with the vision for sharing ideas through language, motivate a previously unmotivated person to begin languaging. To begin with, the student, with help in spelling, types in their own language construction the ideas that he/she wishes to communicate. While leaving the student's own effort on the screen, a discussion of clearer and more appropriate ways of expressing the ideas lead to the student moving about the text that already exists and adding new languaging constructions that help to enliven the existing ideas. Over a period of time the model of language is developed simultaneously with a developing a set of philosophies. This provides one of many reasons for languaging.

While the above example is only one example of how a computer can be wisely used, there is a multitude of other educational advantages that can be attributed to the computer. For example, repetitive learning exercises can be made more acceptable by the use of the computer. Presentation can become a motivating tool in presenting mundane information. A great deal of interaction between writing and audio-visual can be achieved through the combination of CD ROM, video camera, audio through voice-over input and the keyboard. Such interaction is able to incorporate most of the major sensory input of the nervous system. Thus it can enhance learning. One example is producing a school assignment on early aviation. There text was used on the screen to read about the concept being introduced, old photographs are able to be inserted together with video action which arises from copies of old movies available on video tape and voice-over to convey the emotional connection that the author had with the project. A great deal of family fun is achieved in helping a member of the family to achieve such a production thus strengthening family bonds while learning.

Television has been the centre of criticism for many years and still is the centre of a great deal of controversy. In the Sydney Morning Herald, Monday 19 June 1995, page 6 "The Guide", it states "Violence in children's television is a big

Modern equipment can produce high quality output and at the same time strengthen bonding between parent and child

Is television being used as a scapegoat for inadequacies of family life?

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community worry. And cartoons are the most violent kids fare of all. Parents tend strongly to agree that television violence causes kids to behave aggressively. About 60% of Australians surveyed by the Australian Broadcasting Authority think there is a link between television and real life violence.” In the same article on cartoon violence our attention is drawn to the sometimes illogical claims that are made about the effects of television on children. It is claimed that a cartoon entitled Beavis and Buttthead attracted 30 complaints to the Australian Broadcasting Authority. It is considered that this is a sizeable number of complaints since the programme has never been shown on Australian television. The question is then raised; how much of a villain is television in cognitively modelling to emerging young minds? Could it be that television is being used as a scapegoat for the inadequacies of family life in our modern age? Is television being used as a substitute for parental attention? If it is? This is a much more significant reason for the adverse effect that television is having on children and young people.

Used as a substitute for parent interaction, the television can have some deleterious affects on young children’s development. The highly stimulating presentations tend to transfix young minds so that they personally participate less in their own environment. This means that many children do not participate in play that is so necessary for developing cognitive skills. The child’s mind is not exercised in personally constructed imagination. As the child grows it is not involved in motivational problem solving as is experienced by children who participate in constructive hobby pursuits. In short, the child is not being taught and cognitively programmed in skills that enable the child to successfully interact with the environment. The child is being taught to absorb but not being provided with skills of criticism, evaluation and analysis – skills necessary for discrimination of incoming information. Television messages are fast moving providing little time for the child to even reflect on the message in the program. Babies who grow up with continual television stimulus tend to find in older growing years that other activities are less stimulating and appealing. I believe this is partly due to poor development of cognitive skills to participate in the environment and partly due to the contrast in the stimulus levels. While these ideas have not been validated in formal controlled research, information collected in child parent interviews at my practice indicate that there seems to be a reasonable

Television provides high level stimulation which the child will, in later years, regard as the minimum level to avoid boredom

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connection

Family philosophy can be developed through wise television usage. A strategy that has been successful for many families associated with my practice has been to make family decisions about those programs that will be watched by the entire family. In this way the children are modelled in the art of evaluating the suitability or non suitability of particular programs. This provides an opportunity for family values to be addressed thus developing life-style philosophies for the children. Once TV programs have been selected, they are then recorded to be viewed at a time when the family is able to relax and view the program together. Viewing the program together strengthens the bond among family members and in addition creates a forum for discussing the program. Discussion can occur either during advertisement breaks, with the sound turned off, or after the program if the advertisements are fast forwarded. The value of discussing the program is realised when life-style issues are raised which otherwise would take a lifetime to discover. Parents are able to draw the children's attention to issues that they might not recognise, through inexperience but when graphically portrayed and then linked to the parents' extensive experience can help children develop valuable philosophical viewpoints before being faced with the issues in real life. While we believe that television portrays a great deal of evil, nonetheless this evil does exist in the world and it is likely that children will eventually face some of these issues arising out of the evil that surrounds them. Through controlled viewing and discussion, children are equipped with pre-considered decisions about how to handle a particular situation if it were to face them. There are so many valuable educational programs, of great worth, that the average individual would not have time to view them all. However, even with the worst of the programs, lessons can be learned in a controlled and bonded home environment guided by parents. Television must be used as a tool, respected and used carefully. Nobody would set out to remove all circular saws just because a few people put their hands through them.

A family philosophy to get enjoyment and cognitive development from television

Information Technology

Information technology is often poorly understood. Few people understand the availability of information at their fingertips. Even though the library system has been with us

Despite good intentions it is counter-productive for parents to exaggerate dangers.

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since 1608, (Ford (Ed in Chief), 1962, Volume 8, p210) and libraries have been in general use since 1853 (same reference) a great number of people, to this very day, do not know how to effectively access the vast array of information available to them. With such a vast array of information, families need to develop an understanding of how to access information not only for leisure but also for developing the basis of family philosophies and beliefs. In my practice, I have found that erroneous belief systems are significantly responsible for some individual's inhibitions in learning. Many believe that definitively accessing the reality of concepts and ideas can only be carried out by people with degrees in specific fields. It is deemed that the ordinary person is reasonably powerless and ineffective in being able to make educated decisions on many matters. As a result, many feel that learning and education has little relevance to them other than for obtaining a job. Many viewpoints in families are erroneously developed and may then be raised to the level of family beliefs without consulting the array of information that is available to all. This in turn effects the way entire families approach their future reasoning and thinking as well as their relationship amongst themselves. Children find that parents' views are quite erroneous when formed without consulting reliable information sources. The young person's confidence in his/her parents is undermined when it is found from other sources that the parents views are quite false on particular topics. A family, who came to my practice with a fifteen year old boy who was totally demotivated regarding home and school life, failed to understand that the boy would not respect them in that most of their views on his drug association were false. While their views were motivated for noble reasons, they refused to research the facts to assist the lad. Eventually, the lad was sent to a reform school. Parents who develop beliefs through hunches and feelings often slavishly stick to their views even though they face evidence to disprove them. The child then ceases to respect the parents' modelling in other relevant life-style matters where the parent presents viable models. However, the child itself may then model from an even more inferior peer based source.

parents and children should use libraries and modern sources to research thorough y

In recent times information technology is made even more available to the average person. Libraries supply reference assistance so that reference staff are available to search for information that the average individual could not find for him/herself. Current events vital to an individual's decision making process can be accessed by phoning a reference assistant, at the local library, to ask for a file to be collected

Reference assistance supplied by libraries

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on a current topical issue.

The most recent technology in information retrieval and broadcasting is the Internet. Information retrieval, in the past, has been historically centred around official published documentation. Today, the Internet allows individuals to both publish opinion and to seek the opinion of other across otherwise impassable borders. In the past, our information about other countries has been derived from official government statements but now it is possible to understand how individuals within those countries feel and think. While the information may be individually biased, official statements, relied upon in the past, also bear the bias of particular political organisations or official spokespeople. Historically the Nazi regime is an extreme example of official bias, however to a lesser degree, this bias extends to most official statements. The Internet, while it may promote some undesirable and questionable features, does provide individuals the facility through which a survey of non-official viewpoints on current affairs can be obtained. While the accusation of unreliability can be levelled at such a medium, there is possibly a greater chance of obtaining a more representative cross-section of individual opinion. This provides the individual searching for information an opportunity to personally examine the information and come to a logical decision based on a cognitive process rather than the mere acceptance of official propaganda.

Internet allows access to a rich source of information across international and state boundaries

Since individual information resources have become so accessible, it is more urgent than it ever has been in the past to acknowledge the need to teach cognitive processes rather than disseminating mere information. Information is changing at such a rapid pace that what is learned today is merely history tomorrow. In many cases, today's information may even be irrelevant tomorrow. Therefore, the greater need in education is to teach individuals how to analyse, evaluate, criticise and synthesise information for immediate use. In the past, life moved at a slower pace and technology developed more slowly. Today, we need to speedily understand and use the latest information and technology if we are to remain relevant. A failure to be able to handle such information flow will mean that such individuals will have "missed the boat". Those who succeed will be those who are relevant and up to date.

Cognitive skills are permanent, information is both voluminous and ever changing

The problems being experienced on the Internet are only problems to people without well developed skills to handle and evaluate information. It is essential that teachers and

Internet can be an invaluable educational tool for those who receive adequate

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parents become intimately involved with students on the Internet so that the elevated motivation that arises from this new technology is directed towards profitable learning situations. For example, in studying Geography, personally seeking information from people living in that environment is going to be more interesting than a single person's opinion of that environment in a textbook. This kind of learning encourages formulating surveys, collating, analysing information and then presenting papers on their findings. This can only be done through adult modelling; a task that requires more input than a teacher has time to give. Home and extended family involvement are necessary for the child to obtain sufficient modelling over time. Parents also need to keep abreast of the information economy in order to remain relevant in the workplace. This is a task that both adults and children need to address together. Parents need to understand the pressures and social changes that the information economy is placing on individuals so that the parent is able to support the child emotionally and cognitively.

modelling

Travel

Never before in the history of man has travel been such a possibility for most of the population. The stories of early adventurers revealed that travel was a significant factor that would often change the course of the travellers' lives and broaden their insights in regard to their own lives. In the same way today, those who travel tend to be more interesting people. They appear to be people who are able to view concepts from many perspectives. I believe that this phenomenon is caused by people interacting with those who have significantly different cognitive style in diverse communities.

Cognition improved by travel

In understanding that an individual's cognitive development is largely influenced by exterior modelling and the collection of interpretants to form a multitude of sign networks, a personal experience is going to have a more significant degree of impact than an abstract academic experience in developing within a person the ability to accept variable viewpoints. This is so in that the individual can choose more significant interpretants for the individual's needs in learning how to accept change and the logical reason for it. This validates, in the mind of the learner, an accepted range of possible and plausible variation. Such individuals are

Having seen different responses in other places the individual is more able to adapt to change and other ideas

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more able to accept change without a major emotional disturbance. Such cognitive development, I believe reduces anxiety when an individual must face conceptual change in a learning environment

Travel provides a larger range of experiences than can be expected in an closed environment. Travel does not necessarily mean that an individual must visit places on an international scale. Even travelling across one's own city provides experiences within a number of cultural changes. Families need to, on a conscious level, plan to experience interesting social events in many of the nearby localities. For example, the Bowral Tulip Festival, less than a hundred kilometres away, where a taste of country cultural life can be obtained provides a significant experience for city dwellers. Country agricultural shows, even held within one's own city, provide first hand information and viewpoints about country cultural existence. Ethnic restaurants provide a glimpse of the change in the way different people think about food. Holidays within one's own country can be cognitively beneficial if there is a balance between seeking leisure and learning through experiencing the local culture. However, there is the tendency today for even travellers to become insulated from the local environment in that they drive themselves, keep to themselves and only pursue commercial fun activities. For example, behind every large community in an area there is a smorgasbord of social experiences in the surrounding smaller communities.

Travel, within sma l radius of home, can be made useful

Youths who are breaking the juvenile bonds with their parents often utilise travel as a means of developing a philosophy and lifestyle for themselves. Many parents tend to map out a child's life and expect their children to accept close supervision and direction setting them up to mirror their own perception of success. Often children who have experienced the cost of the family's "success" want for themselves a lifestyle that does not necessarily meet the ideals of the parents. Thus, travel for such a young person, provides a variable range of social examples that, while grappling with the task of formulating their own philosophy, also provides a wide variety of alternative models from which to select those elements that provide satisfaction. It is my experience that many people who travelled as youths without their parents have developed lifestyles significantly different, but just as successful, even more successful, than those of the parents

Benefits of breaking juvenile bonds by travelling

It seems a great pity that such a learning experience is often

Many parents want to

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accompanied by a great deal of ill feeling towards that young person from the parents who see them as breaking out of their imposed success model. For example, some parents have the perception that a young person should complete Higher School Certificate and immediately enter University. I have observed much ill feeling between young person and parent when alternate plans to travel for a number of years is implemented instead of following the parents' plan.

impose on their children a pre-determined model of success

In one of the Centre's case histories, an adult who had not separated himself from his parent's expected plan for his life had never developed a personal philosophy nor had he ever achieved personal goals. As a result, he allowed those in authority to determine his life. The result of this was that he became emotionally disabled as a great number of people imposed on him their own expectations. He then began the habit of imposing imagined expectations upon himself. He did not have the cognitive development to realise that he could not be all things to all people. His doctor had diagnosed him as being bi-polar²⁴, and it was clear to me, from the doctor's report, that the cause was closely related to the extreme anxiety experienced when trying to obey the authority figures in his life, as he had with his parents, at a time of his life when he should have been achieving independence

Case of an adult who had never successfully developed a personal philosophy or achieved personal goals

His parents wanted him to become a doctor. He did not want that and rebelled. After three years of medicine, by deliberately failing. His father immediately compelled him to work in the family business and forced him into accountancy.

Rebelled in effort to break free of parental oppressor

Even though he wished to separate himself from his family and to move away, he knew that this action would sever his relationship with his parents completely. This he could not do as he had always been forced to depend on his parents and had not developed the cognitive skills necessary to fend for himself.

Could not sever relationship with parents because of dependence

24 A medical condition similar to schizophrenia.

Figure 1

Summary Of Individual's Present Ability

The person is likely to be a visual person with reasonable shape discrimination skills. However, the individual is likely to be unsure in the environment due to orientation difficulty. (Direction) This person would be awkward and clumsy, could be dyslexic. Such an individual may not immediately understand new things or may find it difficult to know what the central part to any issue or thing is. When reading, this person would find it difficult to know what the main ideas are. (Picture completion)

Due to above average field discrimination, the person is able to research, but the other deficits cause the task to be slow.

Figure formation deficit indicates that this individual has difficulty in analysing or observing things in unitary parts. Mazes indicates the person's awkwardness and poor planning. (Tests 10-14)

However this person is able to attend well to stimuli.

These inefficiencies cause this person to lack in confidence and therefore unable to cope as well with incoming information. Unable to make strategies to overcome many problems in that this person is likely to be either emotional and frustrated or layback due to having given up. However, in this case doctors felt that the individual showed signs of bi-polar activity. It has since been disregarded.

The cognitive skills listed can all be improved to provide more efficient mind tools for this person to use more efficiently. This person has made such progress that original notions of bi-polar features have been totally disregarded.

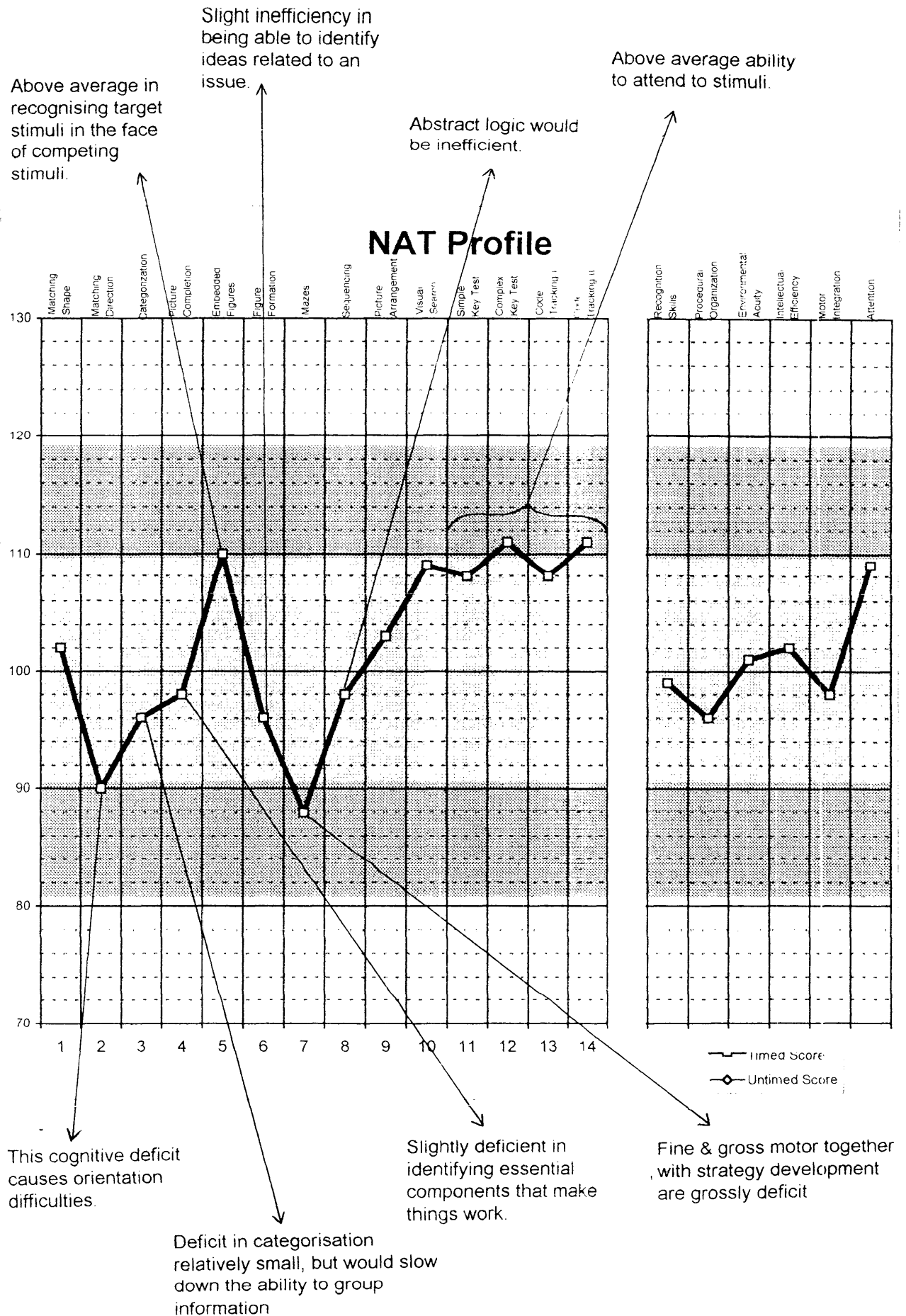


Figure 1

TABLE 1: COGNITIVE SKILLS SUMMARY

Test	Indicates	Description	Application
1	Shape Recognition	Basis for most complex perceptual tasks. Shape can be considered as the defining properties of a stimulus.	<ul style="list-style-type: none"> • recognising stimuli in environment • reading
2	Sense of direction	Provides us with a concept of orientation within our environment which influences our concepts of: <ul style="list-style-type: none"> • magnitude • angle • linear measurement • progress within an argument 	<ul style="list-style-type: none"> • orientation with environment • self-perception • self-organisation • transforming concepts, ideas, things into other orientations • recognising and assembling parts to a whole project • an essential component in matching related concepts ie. in problem solving • planning • number sense • reading • ability to read from plans
3	Cognitive Organisation	<ul style="list-style-type: none"> • Classification: the placing of things into groups according to their similar features <ul style="list-style-type: none"> - abstract cognitive organisation • categorisation: making decisions as to whether something possesses the characteristics to belong in a particular class <ul style="list-style-type: none"> - concrete cognitive organisation 	<ul style="list-style-type: none"> • everyday thinking procedures • grouping ideas and concepts and knowing where they belong • efficient procedural organisation • development of thinking skills for maths and science based subjects, and practical pursuits • reading comprehension - logical relationship of words within sentences

Figure 1

Test	Indicates	Description	Application
			<ul style="list-style-type: none"> • spelling
4	Environmental Acuity	<ul style="list-style-type: none"> • Observation and comprehension of environment • Separation of essential from non-essential parts in the whole 	<ul style="list-style-type: none"> • comparison of a visual pattern with a concept • important in reasoning processes related to past experiences • practical pursuits, maths. english, sciences
5	Field Independence	<ul style="list-style-type: none"> • Intellectual curiosity • Ability to focus on stimulus in face of competing stimuli 	<ul style="list-style-type: none"> • targeting goals • problem solving • research
6	Abstract Thinking	<ul style="list-style-type: none"> • Analysis - dissecting concepts into their component parts • Synthesis - re-assembling component parts into a different conceptual framework <p>Includes: spatial analysis logic reasoning</p>	<ul style="list-style-type: none"> • dissect concepts into their component parts, then assemble personal approaches to ideas/issues • identify components of concepts or things within the environment • academic and social tasks • reasoning • efficient comprehension of written and spoken word building concepts from reading
7	Motor Integration	<ul style="list-style-type: none"> • The integration between thinking and doing. It is the process of thinking, developing strategies, then acting upon those strategies. <p>Includes: visual attention spatial organisation motor co-ordination motor integration</p>	<ul style="list-style-type: none"> • efficient thinking then acting • communication with outside world • strategy planning and development • performing tasks with limbs • practical pursuits • concentration • attention • sequencing • organisation

Figure 1

Test	Indicates	Description	Application
			<ul style="list-style-type: none"> • reasoning • reading • writing
8 & 9	<p>Sequencing</p> <ul style="list-style-type: none"> • Test 8: with abstract concepts • Test 9: with concrete concepts 	<p>The planning involved in arranging actions or ideas in a meaningful and logical manner. Includes the following skills:</p> <ul style="list-style-type: none"> • Anticipation: developing a pattern of mind about an action or idea so that it can be determined ahead of time what is going to happen. • Logic: establishing clear pathways of thought, constructed by relevant and appropriate connections between and among demonstrably valid ideas. • Planning: before commencing a task, setting out clear steps of activity to achieve a goal. • Judgement: confirming or rejecting the connections between and among idea. • Rule induction: perceiving a sequence and order which re-occurs consistently, and recognising it as a rule. • Social intelligence: building cultural patterns which provide meaning to the subordinate understanding of the total symbolic system. 	<ul style="list-style-type: none"> • efficient information management and planning • comprehension of academic concepts • logical thinking • sequential thinking • attention to detail • reasoning • reading • writing

Figure 1

Test	Indicates	Description	Application
10 - 14	Attention <ul style="list-style-type: none"> • Tests 10-12: concentration • Tests 13, 14: tracking 	Holding a concept, then recognising it each time it appears. It involves: <ul style="list-style-type: none"> • Concentration: focusing on a task to the exclusion of competing stimuli in the environment, for an accepted length of time so that the task may be completed efficiently without interruption. • Tracking: one's ability to visually target a stimulus and then move to the next sequential stimulus without losing one's sequential position. 	<ul style="list-style-type: none"> • performance of other cognitive skills • performance of motor skills • concentration • reading • writing • listening

Figure 1

Towards a Cognitive Emphasis in Learning

The cognitive profile illustrated in Figure 1 demonstrates the effect of one's environment in enhancing or inhibiting cognitive function. Read the profile in conjunction with the cognitive skills summary.

Figure 1, Cognitive Profile Showing Effect of Environmental Influence

This is an example of an individual who did not have an early bonded relationship with his parents as everything was done for him by a housekeeper. His parents were not available to him because they were both very busy in the family business. As a result he did not have sufficient interaction to develop the cognitive skills required for him to cope in his environment. Then, as a young adult, was incapable of separating himself from his parents in order to complete the development of his own identity. For young people who successfully develop cognitively parents need to understand that travel can be a very valuable tool for a young person to develop. It can fulfil the functions of a "finishing school for cognitive development" by providing the environment in which he/she is forced to hone developing cognitive skills into ones on which he/she can rely. This can be done in the absence of those with whom bonding has been established, whether it be with parents or peer group

Travel, by himself or with a companion, would have been an excellent way of becoming self-reliant

Young adults often break the bonds with their parents but remain in a peer bonded situation. Such bonding often leads to unhealthy dependence on the peer group that can often lead to the group carrying out acts that each individual would otherwise not participate in. Immaturity in such a group is maintained for a much longer period of time but without the guidance and leadership of more mature adults. This is where the adventure of travel provides sufficient motivation for young people to break with their peer group so that the young person can learn to become an individual. Even if they travel in pairs being absent from the entire group assists each one to become an individual.

Travel also useful to break free of peer group influences

When the young person returns home it is often reported that when coming together with parents for the first time after a period away both parents and child now meet together on a completely new basis of adult equality.

Travel also lets parents come to terms with the new independence of child

Travel is an important component of cognitive development throughout a child's growing years but particularly important as a developmental tool in making the transition between child and adult. Cases of children who have not left

The parent-child bonding needs to change to adult to adult bonding

Towards a Cognitive Emphasis in Learning

home before marriage reveal a range of difficulties. Often, the parent-child bonding predominates over the adult to adult bonding that one would prefer to see by that age. This is revealed in wrangling between child and parent even though they are adults. Major family crises can be developed out of unresolved changes in the bonding relationship. It is usually the parent who will not make the change. Parent and child can drift apart in their relationships in adulthood if the bonding change does not occur smoothly.

When the main focus of learning is development rather than being focused on information management, transitional cognitive tasks as referred to above, will be incorporated as an overall lifetime cognitive plan in education. Without cognitive development students then merely become the reflectors of others' thoughts rather than learning to contribute to society's thinking. Education can only become a fragmented number of futile efforts trying to cope with the ever increasing quantity of social knowledge if cognitive development or thinking is not the basis of the entire exercise.

Learning becomes a life-long habit when cognitive development has occurred in a person's youth

Telephone

Although the telephone has been available for years the realisation of its value in cognitive development has received little attention.

Telephone useful in cognitive development

To parents' annoyance older children speak for hours on the phone. While parents may consider this act to be a waste of time and money, children are actually carrying out cognitive development that is most necessary. The telephone allows young people an "arms length" conversational venue where they can be more daring and experimental in expressing their viewpoints. Face to face, the individual expressing an opinion may be distracted by the other person's body language and may therefore be inhibited in completing the concept. On the other hand, the telephone provides privacy from others overhearing the two people talking. It is much easier for a more timid person to face a more domineering peer on the telephone as it provides safety in distance.

Telephone allows people to be more daring in expressing opinions than face to face discussions

The telephone provides a much higher level stimulus than ordinary conversation on a face to face basis. To obtain the same stimulus ratio, an individual would have to be talking directly in one's ear. Thus, this high level stimulus causes

Telephone provides high level stimulus

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the individual to learn to focus on conversation and in a more stimulating way assists the development of thought processes as the young people interact in conversation.

The telephone today is maintaining the art of conversation that is being neglected in the home due to the intrusion of radio, television and economic needs for both parents to work. The telephone, in our modern society, is a tool that is ideal for maintaining bonded links with the extended family that has been scattered for economic and business reasons. This means of connecting with the extended family provides any member of a family the ability to obtain more than one set of opinions when dealing with any particular issue.

Telephone maintains art of conversation in a world where other things discourage conversation

Specialists Always Available by Phone

A common complaint from students today is that they find it difficult finding resources they need for assignments which require up-to-date information. Many slave for hours, both in the library and in bookshops, trying to find information that has not yet arrived in printed form. Libraries are always somewhat out of date. The most up-to-date authorities are those developing the technologies. These specialists are all accessible by fax or phone and provide the latest information in the form of technical fact sheets. As well technical personnel are able to provide clarification on technical issues.

People who make the decisions are available by telephone

For students coming to my centre, I have demonstrated the usefulness of phone contact with specialists on many occasions. A student who was to write an assignment about the duties of an Australian Prime Minister could not find appropriate up to date information from library or journal sources. I encouraged the student to phone the Prime Minister's Office in Canberra asking that some information be faxed to our Centre. The secretary could not answer certain questions and he suggested that the Prime Minister himself may be available to answer the questions. Surprised, the student responded saying "Surely the Prime Minister does not have time to speak to me!" The student was asked to hold the line. Within a few minutes Bob Hawke²⁵ was on line personally attending to the student's enquiry. He gave the student between five and ten minutes and right from the start approved the student's request to tape record the conversation. A leading scientist, Dr Letham

Telephoning the Prime Minister, a research scientist and the developer of new technology

25 Bob Hawke was Paul Keating's predecessor as Prime Minister of Australia

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from ANU²⁶, agreed to an hour's conversation with another student who had to write an assignment on a current scientist carrying out important research. An agricultural student, finding it difficult to research up to date current farm technology from journals and library sources, was encouraged to phone from our Centre a number of specialist organisations who are at the cutting edge of developing farm technology. Within half an hour, the student had more information than he could handle, it having arrived by fax. These are just a few of many examples.

Encouraging students to interface with the professional world assists them to formulate in their mind precise and specific questions accurately targeting the information that they require. Contact with the professional world also models the cognitive approach of that section of society. Interaction like this also teaches the student to think on his/her feet by pursuing follow-up questions to statements made in the conversation. In the interactive processes when I have been present, the professional person often challenges the student's viewpoints and causes him/her to substantiate the current view that is held.

Telephone contact teaches students valuable communications skills. Students learn how to meet objections, to persuade and negotiate in a world where each person must fend for themselves. Students will find that not all people they contact are going to be co-operative, pleasant or understanding. At the same time, students also need to learn that no one gets anywhere in life by accepting first up refusals. However, each student needs to learn how to handle such situations in a non-confronting and beneficial manner both for themselves and for the individual they have contacted.

Today, young people do not experience a great deal of meaningful interaction between adults and themselves. As the reality of the family is becoming more confined in its definition, even to single parent families, there is less intimate interaction that children are receiving today than in the larger extended families of yesteryear. The economic conditions of our modern world require both parents to work. Tired from their endeavours, parents find it very difficult to converse with their children in a deep and meaningful way. Dwarfed intellectual development can be a

Phoning important people does require planning and ability to "think on one's feet"

Learning how to handle different reactions

Even in a nuclear family young people can get contact with relatives using the phone

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result if the child does not actively seek adult interaction. Thus, the telephone can be an essential tool for a young person to seek wider intellectual interaction with the adults within our community. While each adult has only a small amount of time to spend on these calls, the young person can contact uncles, aunts, and others to get a variety of interactions. Intellectual interaction in a less planned environment with an adult is the ideal. Such interaction provides young people with the opportunity to understand how that person thinks.

Parents who think the “generation gap” is an insurmountable problem that would prevent young people from having regular conversations with adult relatives by telephone should not abandon the opportunity just because of their expectation of failure. The one-to-one contact between adult and adolescent or child is a powerful tool for breaking down this generation gap. It will develop bonding with a wider group of adults and widen the young person’s circle of friends and confidantes. Too many young people live in the ghetto of their peers. Cut off from adult thoughts. They have only the thoughts of their adolescent or childhood peers with which to compare their own thoughts. Adults have played a significant role in causing the generation gap and it is only adults who can reduce its impact. Young people lack the power to break into the adult world outside the immediate home unless the adults give the child the encouragement to do so. Parents could instigate these phone sessions by asking uncles, aunts and others to initiate the first calls.

A step towards overcoming the generation gap

Experience in mature communication is an essential part of every student’s cognitive development. A great deficit in many students I encounter at the Centre is an inability to communicate their viewpoints, needs and feelings to another person. Very often these skills have not been mastered within their own home.

Experience in mature communication is an essential skill

Surveys by Students

Some years ago, students accepted facts in text books as being valid information. But now research is advancing at such a rate that what is believed to be true today may be false tomorrow. It is also true that in time past we approached education in quite a simplistic manner that a single viewpoint was accepted as a reasonable viewpoint to be accepted by students at large. In this age, students need to have practice in first understanding that there are many

Cognitive skills learned by preparing a simple telephone survey

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viewpoints that can be obtained from a particular concept and that their task is to choose which viewpoint they believe is most valid from the vantage point from which they view the world. To achieve this, students can use the telephone as a means of investigating variable viewpoints on a particular subject. This can be done by phoning other adult relatives, friends and acquaintances. A limited number of professional people who are knowledgeable in that particular area may be phoned. However, students need to be taught how to collect information so that comparisons may be made. Learning how to formulate a quick and simple set of questions that accurately target the viewpoint required and developing strategies for recording the information and then comparing it is a motor integration task that students need to develop in order to find learning relevant, enjoyable and exciting. This forces students to think rather than just rehash textbook information.

Development of Conversational Skills

The telephone assists young people to develop conversational skills. Much face to face conversation is punctuated by body language and associated noises. However, telephone conversation forces people to develop communication skills where the hearer is able to understand the concepts in their mind through the words that we speak in the absence of face to face clues to the meaning.

Telephone forces us to interpret from words in absence of face to face clues to meaning

While many people are unable to express their ideas purely in words the reverse is often true. Many are unable to understand incoming information purely by listening to another speaking in that they do not understand what and how to ask to clarify incoming concepts. The skill of comprehending the spoken word requires cognitive concepts related to sequence, logic, visualisation, analysis and synthesis. To comprehend what is being said, the individual must first hold in mind the order of meaning. Then the concepts need to be broken apart into separate ideas and assessed it for its logic. Finally one must reassemble the concept in one's own terms. The telephone forces all this to occur in the mind for meaningful conversation to occur.

Strengthening skills of sequence, logic visualisation, analysis and synthesis

As with all other development, there needs to be adult guidance and supervision to improve conversational techniques. If a parent happens to overhear conversation on the telephone, that parent needs to be vigilant to provide feed-back (when privacy is not an over-riding consideration) on the child's success or failure in using telephone

When privacy not an issue, parents should give positive feed-back on the success or otherwise of phone communications.

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technology. For example, if the child had failed to graphically portray a particular picture in words, the parent needs to model the process so that the child is able to improve in both languaging and visualisation skills.

Overcomes Distance Problem

The telephone needs to be accepted as a tool for keeping the cognitive advantages of an extended family with the benefits of living more separate self directed living. The advantage of an extended family is that each person is forced into developing opinions of their own in order to counter the opinions of those about him/her. This means that each individual while arguing a particular view point learns how the other person is carrying out the thinking process. I have encountered debates in the few extended families, that still exist, around where a member of the family will reply, "You cannot think like that. How do you know that? What evidence do you have that it happened like that?" Throughout conversations like that the most beneficial thinking models are proved to be successful while the faulty models are doomed to demonstrable failure.

Cognitive advantages of extended families

When living in more isolated family units, such development is lacking. However, planned interaction through the telephone can overcome this problem. Frequent communication within a family group is essential for such development as strangers are often too polite to challenge particular view points a person may hold.

Telephone provides cognitive advantages for nuclear families

Telephone Can Insulate from Adverse Reactions

The telephone protects the more timid family members from adverse reactions while taking a stand on an issue. The phone allows that person to air his or her views with many but one at a time. A more timid person may be game to become more daring and experimental and thus become exposed to more interaction than would have been possible in a group.

Telephone protects the timid from much of the fear of rejection

Accessing Strangers Who Are Not Intimidated by Us Or Us by Them

Since the concept of family has considerably diminished, very often incorporating only two individuals, many young people grow up in the world isolated from extensive adult modelling and involvement. While most people would not

Telephone helps young people learn to interact with the community, hold to old beliefs that are sound and change

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consider interacting with significant people in the community unknown to them, nevertheless our communication technology places a wider number of significant individuals in reach of us all. Through phone, fax, CB radio and Internet people are able to obtain a wide variety of experience from those in the community who we think we can trust. Variety in viewpoints, when deciding upon significant pathways in one's life, provides us with a range of possibilities so that, as a developing person, one chooses pathways based upon logic, decision and social awareness rather than pathways of naive bias. This process should not be done in isolation by a young person but parents should encourage their young people to pursue a variety of viewpoints so that, as a family group, they have a range of concepts which they can either accept or reject depending upon the individual family's beliefs and philosophies. This helps young people to understand how they can relate to the community and at the same time hold on to that which is philosophically sound but to amend those beliefs which are proved to be inadequate

beliefs when they prove to be unsound

One of the greatest difficulties that young people have is aligning parental philosophy with that of the current world. They find it difficult to bridge the gap between childhood and adulthood in terms of making sense of dual philosophies. Thus many young people live two lives, doing what they know their parents expect in front of the parents and doing what is fashionable among their peers. The only reason young people do this is that there is, in many cases, no negotiable discussion upon any other viewpoint than the parents' established bias. Both adults and young people need to constantly re-evaluate their philosophical stance in relation to the wider community. This does not mean that old values have to be discarded but they do need to be re-evaluated in terms of current environmental and social circumstances.

Struggle between doing what parents expect and what is fashionable with peers

Even in an extended family, viewpoints may have a single bias but the telephone allows individuals to break free from that bias²⁷ and to consider many viewpoints from a number of different biases. At one time, the village was the world but today the world is the village. However, most of us rely on fewer viewpoints than the older generation did in the local market place. In the world wide market place, listening to a

Modern communication allows us to consciously decide what to believe

27 "Bias" is another word for "theory loading", this is another example of the need to consider a variety of theory loadings when interpreting the results of experimentation.

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very few so called professional people, we tend to follow their interpretations of significant matters rather than consider the matters from the basic information. These people who wield such influence are editors, commentators and media magnates who feed us what they believe is true.

Communication today, however, allows each one of us to access the global village so that we may consciously decide upon what to believe rather than what we are told we should believe.

Modern technology has placed in our hands tools for efficient cognitive development but seldom do we use them in a planned manner to enhance our children's cognitive development. We either dominate the media concept with our unfounded fears or we treat it as a means of occupying our children unsupervised. In either case a valuable tool can be a heinous weapon working against the development of our children.

Few people are using modern technology for its most valuable qualities:

Teaching Social Cognition at Home

What Is Social Cognition?

Cognition is the process of developing thinking styles. While genetics have an influence upon our thinking style in terms of neuronal speed, the ability to attend to stimuli and the body's ability to interact with the brain through the nerve and muscular systems, little has been considered about how the environment acts upon the development of our conceptualisation in terms of sign networks producing the cognitive frameworks that have a profound effect on biological function. David Rosenham, Professor of Psychology at Law, New York, I believe, in recognising the profound effect that the environment has on biological functions and also recognising that little has been considered regarding this concept, supports my view that many solutions for learning difficulties may be more easily found if the environmental link to the biological chemical status for ideal learning is understood by parents and educators. Through my reading, I have come to understand that adrenaline is the body's chemical that is designed to provide the body's motivation. Once a person has either succeeded at a task that one has been motivated towards and enjoys it, endorphins take over from the adrenaline to produce a sense of pleasure or well being. From my observations and deductions, I believe that passive

Learning difficulties both minor and profound, are often caused by the effect of the social environment on the biological functions of the mind

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entertainment produces high stimulus levels and causes a high level of adrenaline secretion. It appears that since there is no achievement or personal bonding involved in the activity, endorphins do not become a major factor in the chemical equation. As a result, when the stimuli are withdrawn, the adrenaline levels drop causing, in my experience, slight depression. A person in this condition appears to be unable to respond successfully to lower stimuli levels. Thus, learning, reading and other academic activities have little motivational appeal to the individual.

Dependence on adrenaline for one's source of pleasure has, in our present society, placed learners at risk for the reason that learning does not effectively occur in extremely high arousal levels of bio-chemical function. Learning is more effective at a much lower level of arousal under the endorphin influence. If children crave for the high arousal condition in order to pay attention to a task they are usually little motivated for the repetitive nature of learning. Such children, in my experience, keep seeking even higher levels of arousal until the body is not able to supply sufficient adrenaline to gain the effect. This child, I believe, is at risk and is likely to seek stronger stimulants outside the body such as drugs. (Open Learning, Psychology, Episode 26)

It is my belief that the interaction of the environment with an individual's genetic variables needs to be taken into account to understand how cognition can vary from individual to individual. It is this complex two way interaction with the environment that produces the concept of social cognition. Social cognition cannot be illustrated more clearly than using Gardner's imagery of frames of mind as described in his book. (Gardner, 1984) Social cognition is then best illustrated by understanding it to be the way an individual develops frames of mind in regard to his/her world.

In the light of the above concept neither the genetic influences nor the environment present perfect conditions for cognitive development. Therefore, the better the parental guidance the more effective is cognitive development going to be.

Short term memory is a genetic condition that hinders learning. A person with a short term memory will develop a cognitive sign network regarding problem solving quite differently to an individual who has no difficulty with retaining immediate information in short term memory.

Nowadays children have many experiences that produce an "adrenaline high" without the subsequent production of the endorphins. This eventually leads to the need for higher and higher levels of arousal

Interaction between environment and the individual's genetic variables produces social cognition

Parental guidance vital to effective cognitive development

Example of different cognitive sign network resulting from difference in short term memory

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From my personal experience, and from my experience with those who consult me, it is clear that most people with attention deficits will recoil from the opportunities of problem solving when they arise and the individual with adequate short term memory capacity will have developed a sign network that will cause a problem to be a positive stimulus thus encouraging the individual to be motivated towards solving the problem.

In trying hard to provide an ideal environment, parents and others can actually inhibiting cognitive development. Social cognition was once developed through the problems that confronted each person in their natural course of life. Today, society and parents believe that it is their responsibility to shield young people from the problems of life. For example, if a young person is unable to find a job, the Federal Government solves their problem through social security. If a child wishes to purchase the latest gadget, parents feel duty bound to supply the child's demands so that the child does not feel disadvantaged. Educational organisations believe that children should not have to face failure. Therefore schools adopt the philosophy of social progression rather than progression by attainment. If the young people within a community have the problem of "nothing to do", the Local Government Council and social groups frequently feel it is their responsibility to supply facilities without requiring those who are complaining to even lifting a finger in order to solve their own problem. It is through problem solving that I believe the motivation for cognition is derived. The best motivation comes from urgent personal needs as outlined by Maslow in his hierarchy of needs. According to Maslow it is these basic needs that provide the source of motivation. If a person's basic needs and wants are met by other people, motivation ceases to drive the individual to pursue specific ideals in life.

In today's society there are many young people who have little focus, poor cognition and are driven almost entirely by "feeling". A case study at my Centre that fits this scenario is Angus, a Year 12 student whose mother is concerned as Angus appears to have no sense of urgency, concern or fear of missing the opportunities in life that failing the HSC could bring. Angus comes from a reasonably well to do family where all his needs have been met by his parents. Food, clothing, entertainment and even part time jobs have all been arranged through either parental influence or influence of friends. When Angus faces any minor problems in life his parents are ever so willing, without invitation, to solve those

Parents and others who shield children from the need to solve real life problems help develop, in those children, the expectation that everything in life should "come easy" and that anything that does not "come easy" is not worth doing

Importance of people providing for their own needs

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problems for him. No-one has ever compelled Angus to anything that he does not feel like doing. As a result, he views the whole of his life in terms of doing only those things that he wants to do. He has very little sense of responsibility other than for the basic recognition of other people's property but does not perceive his responsibility to contribute to the community good such as contributing to everyday living expenses. Therefore, Angus' criterion for choosing a life work has nothing to do with the responsibility of supporting himself but is purely based on only being prepared to participate in those things that he likes. At one time he thought of becoming an automotive mechanic. While he is madly in love with cars, as a teenager, and works on them continuously, he has in recent times decided that automotive mechanics would not be a profession that he could enjoy if he was compelled to do particular jobs within a particular framework of time. He has said that he does not like doing things that he is compelled to do by others.

Games

Games are perceived by most people in society as something to occupy or pass the time of day. However some very wise parents, through history, have understood the role of games and playing to be an ideal tool for teaching social cognition. Such parents will guide their children into games that consider the problems of life and their possible solutions. For example "SimCity" is a computer game where the processes of government and environment become issues to be solved. The exposure to the game does not necessarily teach the desired cognitive function. Some children use "SimCity" in a most destructive way, learning nothing valuable. Adults still need to guide the learning process.

Games an ideal tool for teaching social cognition.

Imaginative Games

Imaginative games where children role play adult activities often pose problems, and through the course of the game, seek solutions to them. Often, these games lead to debate amongst the children playing them as each child believes that his/her solution is the better one to solve the problem within the game. Such disputes are then taken to parents. A wise parent will sit down with the children and work through to a logical solution demonstrating where certain children have incorrect models of social activity and where those who are close to an appropriate model of response. Even those with appropriate models may then modify their

Wise parents work through the logic of games when children disagree.

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perception to what the parent believes to be true. An unwise parent often scolds the children for disagreeing, telling them not to be silly, that it is only a game, and that there are more important things in life than dealing with things that are to do with just the imagination.

Planning a Set of Games that Develop the Whole Person

Play can be a valuable time to provide a wide range of developmental activities. So often, parents miss this valuable part of their children's lives when they are more open to learning than at any other time. The problem is that many parents see play as a way of getting the children out of their hair instead of an educational opportunity. Parents need to develop a play curriculum so that resources for the kinds of games that are going to develop as wide a variety of cognitive skills as possible. Children on so many occasions come to their parents complaining that they do not know what to do. Always be ready for these golden opportunities. At this point children are open to suggestion and will with interest accept your suggestions. There needs to be a balance of games that emphasise cognitive skills such as: shape, an example being jigsaw puzzles and other games where shape recognition is the object of the game; direction, as in games related to aiming, turning to the left and right as a part of the games focus. Other games involve reading maps and following directions. Assembling parts help the concept of direction and synthesising.

Parents should provide games that develop a range of social cognitive skills

Analytical games are also very important. SimCity, Fiddlesticks, Chess, Drafts and Monopoly are examples of games involving, amongst other skills, analysis. Monopoly is a game where the player is placed in a great variety of circumstances where the individual must analyse the current situation and develop strategies to optimise his/her result. Monopoly also helps individuals to develop motor integration that is the link between thinking and doing. However, the value of many of these games is missed if the parent is not there to teach the main skills associated with the game. To be handled wisely, the parent must promote the observance of the rules of the game together with an appropriate code of behaviour so that challenge is maintained and the game itself remains credible to the players. When supervised in this manner, the game maintains its novelty as each player wishes to pursue the challenge. The challenge, in real terms, is developing the

Importance of following the rules of the game and establish a code of behaviour for winning and losing

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cognitive skills associated with the game.

Outdoor

Outdoor games provide yet another venue for cognitive development. The games played are on a much grander scale and provide the relationship of thought to action further away from the participant's own body. This encourages development of gross motor control and visualisation over large distances. When actions are made over large distances, error in judgement becomes more apparent. For example bowling a ball the length of a cricket pitch, if not accurately aimed, from the player's point of view becomes a large error at the other end. While these games may appear to require coarser adjustments due to the large distances, in actual fact, the adjustments at the source of the action must be more precise to provide an accurate result at the other end. Outdoor games also help the participant to take into account the effect of forces outside the participant's control. For example, the effect of wind on a golf ball must be considered when making adjustment decisions at the source of the action. In games such as these, the individual is developing cognitive skills related to judging the environment as it relates to the individual. Sailing is another outdoor activity where the mind, action and the environment become integrated. Reasoning, judgement, sequence, anticipation, analysis and the concepts of direction must all interact in quick succession with the action being carried out. The participant is forcefully taught the need for constant thinking and strategising by being tipped into the water if failing to think through the strategies clearly. These outdoor activities generally place the participant in the position of appreciating the concept of cause and immediate effect. There are things that can be taught through games and activities that parents would find very difficult to convey through convincing the child in words. Games can be a mini representation of experiences throughout life. Games can also be orchestrated by the parent when specific cognitive lessons need to be taught. Albert Einstein participated in a great deal of sailing as a young boy which is believed to have assisted him to overcome some of his cognitive difficulties as a child. (Clark, 1973, p43) Canoeing, bushwalking and camping are other valuable activities that enhance cognitive development

Outdoor games encourage development of other cognitive skills

Conversation

Conversation is the time a child observes adult thought in action. It is through conversation that parents are able to assess a child's pattern in logic and reasoning. If conversation is a usual part of family activity, the child is likely to accept cognitive correction on a progressive basis, rather than, all at once as a teenager when the parents do not like decisions that the teenager is making. Parents need to develop within the child's mind a philosophy of thinking. Firmly develop the tools of decision and the child will use those tools to make decisions. There is a saying, "Train up a child in the way that he/she should go and when he/she is older he/she will not depart from it" (Proverbs 22: 6). This statement may be a little optimistic as we all have the ability to change our thinking patterns, nevertheless, a person has a tendency to follow what he/she has been taught at a much younger age.

Children learn adult thought through conversation

In Group at Meal Time

Meal time is a good first venue for a child to develop the concepts of public speaking. Speaking amongst family members weeds out faulty thinking, incomplete sentencings and assists a child to anticipate the kinds of information those listening need to know in order to be understood.

Meal time an excellent opportunity for children to learn language and thinking

Vocabulary is built when adults converse amongst themselves while the children are listening. Children begin to understand and develop an interest in the adult world when exposed to adult conversation that is also of interest to the child.

Vocabulary learned by listening to adults converse amongst themselves

Meal time provides a relaxed unrushed venue to allow children to develop ideas and concepts verbally. So often, in our rushed society, parents impatiently listen to their children insisting that they get to the point quickly. While precision is a virtue, developing minds need exploration and experimentation in more ponderous speaking interactions in order to actively develop concepts. These ponderous interactions need to be in the presence of adults who can make suggestions and model adult approaches to thinking.

Children need to be unrushed when learning language

Individually at Children's Bed Time

Private conversation at bed time is very important for children. This is a time when a child can seek help in solving personal problems. At this time, parents are able to

Stories and cognitive skills developed at bedtime

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model problem solving techniques. Children like stories at bedtime. These stories can be carefully selected so that they encourage the child to think and converse about the concepts in the story. Thus, the child can be taught how to analyse by taking the events apart and examining each one. The child can be taught how to criticise, when being exposed to ideas that the child does not necessarily believe. Applying concepts to the child's life, teaches the child the concept of motor integration, how to convert ideas into action. In coming across ideas that are worth applying to ones own life, a parent can teach the child how to develop steps so that the new idea can be carried out. So many people have good ideas, but few know how to convert ideas into step by step procedures.

Importance of Languaging Extension for Cognitive Development

The same tired old words are used over and over again by most people in our society today. The craftsmanship of language is being lost. People are no longer aware of the finer points of meaning between one similar word and another. For example, a well spoken educated mum who brings her child to my centre did not know the difference between "shall" and "will". "Will" is a contract or promise in the first person but "shall", means simply an intention for the future but not a direct promise if used in the first person. "shall" on the other hand indicates a promise or contract for a second or third person. Thus when intentions were communicated by this lady she believed the two words to be interchangeable. This is an example of how thinking is becoming limited and stereotyped by having little idea of how thinking can be fine tuned by using more precise words.

Being able to use words that are appropriate for the situation greatly improves thinking

It is essential that children be exposed to precise languaging in the home. The way precise languaging helps one to think more precisely and convey thoughts more accurately can be understood from the following illustration. Many students in Design and Technology courses find it difficult to differentiate the concepts of planning and developing procedures. Many fail to understand that planning is determination of the order in which the steps of a task can be performed in a global sense, whereas the procedure, i.e. the "know-how", for performing the operation of each step in the plan. As a result, many students either create a plan

Essential to learn precise languaging

thinking they also have a procedure thus falling into difficulties for the lack of having thought the “know how” through while other students become bogged down in such detail that they have very little idea of the overall concept.

Home Organisation

Allocation of Duties

The very act of organising home activities is a cognitive training paradise for parents and children. Parents can involve children in planning for meals for a given week. Writing the grocery list, stocktaking the food resources and estimating if the ingredients for the meal plan are there in the cupboard are tasks young children can carry out. Looking for things in a cupboard teaches field discrimination, classification, categorisation and motor integration. Motor integration is planning the procedure for carrying out the investigation.

Important to involve children in planning home organisation

Not only do parents need to teach cognition by allocating work around the home, but also need to model efficiencies in planning the tasks so that efficient models of integrating the mind with the physical tasks are achieved. It is not enough to just allocate tasks hoping that the child will arrive at required efficiency levels through some inbuilt and untaught skills. The child needs to be guided into understanding how one must continually act, check and modify if necessary. This kind of cognitive activity helps an individual to have an attitude of continually improving the way things are done and thought about.

Cognitive skills must be taught by modelling

Handling Issues

Of the young people who attend my centre, few observe parents dealing with personal social issues. In the case of difficult marital problems, parents might justifiably want to shield their children from bitter arguments, but for other social issues parents would do their children a favour by exposing them to the way parents deal with disagreements. It is only as parents model the way they think about solving problems in their own lives that young people will understand how to solve problems for themselves.

Children need to see how parents deal with disagreements

It is often a good idea for families to have family meetings to deal with issues and problems that affect the entire family

Family conferences to deal with issues that

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This forum provides a natural venue for parents to talk about ways that one is able to solve problems in a great many varying circumstances. Family meetings also provide a forum in which young people can put their point of view forward without being personally threatened. Parents can develop philosophies that avoid later confrontation over particular issues. Confrontation is avoided by talking out the issue before the topic becomes a contention with the young person. It is a technique used at the centre that has been very successful for families where young people have been rather difficult and rebellious. Cognitive development for social issues must be carried out in an atmosphere that is non-threatening. Too many parents confront their children with delicate issues when the issue becomes contentious. Instead of accepting the parental model the young person programs the resistant model of a rebellious attitude. Parents need to understand that cognitive modelling is not something that is done on the run but needs to be part of a deliberate family curriculum.

affect the entire family

Community Issues

Community issues also need addressing. Too many families allow issues to happen around them without realising their responsibility to deal with the issue before they become involved as a family. For example, in a large town in New South Wales, a contentious community issue arose over a very expensive artistic feature in the town centre. The feature had cost two and a half million dollars and had a practical aspect of keeping the time. Unfortunately, it did not function as planned. This made many of the residents adamant that this money should have been spend on more utilitarian needs. A great number of residents became passionate about their disapproval of the decision to spend so much on such a seemingly worthless project.

Community issues should also be dealt with in family conferences

The project became the target of considerable vandalism. When caught, the young people who had perpetrated the damage gave the excuse that they were helping get rid of the "white elephant", not realising that the money could not be recouped.

Vandals thought they were doing the right thing

For young people, the world is becoming chaotic with contentious issues as the global village becomes a reality. However, for those with whom I have come in contact, very few parents realise the need for them to model ways of dealing with issues troubling both one's immediate society and the remainder of the world. So many young people I

Few parents realise the need to model ways of dealing with issues

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that have spoken to, are frustrated and angry with society and feel absolutely powerless to do anything about it.

If a young person is encouraged within a family environment to air grievances without prejudice, parents are then able to assist their young people to develop ways of acting appropriately to seek a solution. An example occurred in a small country town where the council banned trail bike riding along the bush fire tracks. This angered the young people and they then began to vandalise telephone boxes and other public utilities. On being caught, the police understood the young people's grievance and were able to direct them in appropriate strategies to make their grievances more understandable to the Local Government Council. Police recommended a petition. This resulted in the council setting aside some land and paying for the establishment of a track which was a lot less than the cost of repairing fire trails. It was a very sensible teaching approach adopted by the police rather than a confronting role. Family action, however, could have been more appropriate as a teaching tool than police action. Had family conferences been the norm for that community's families the petition might have been thought of before the vandalism occurred. If the process were well known to the young people before vandalism had taken place then the Council should have realised the depth of feeling behind the petition and it might have introduced the alternative venue before closing the fire trails. Both families and community bodies need to guard against young people developing negative cognitive models through adult apathy. If parents are not actively modelling appropriate social behaviour to their children, the children will develop self help skills that lead them to produce models of behaviour from an immature perspective. These immature behaviour models then flow over into school interactions. These interaction models lack uniformity thus providing novelty and therefore become distractive spectacles for other learners. Such lack in expected interactive uniformity can create such a multiplicity of models that the learning environment is destroyed. Teachers do not have the time to form in each child such cognitive habits in the face of the social confusion within the classroom.

Parents should be aware of the need to assist their children to apply learning and research skills that are taught at school. When a young person has a grievance, that individual should be directed by the parent to research both sides of the situation. In this way, education becomes relevant to young people as they observe the skills being

A case which illustrates differences between acceptable and unacceptable attempts to solve problems

Parents should strengthen the skills taught at school to research both sides of any grievance

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used on a daily basis. I believe that too many parents of high school children look upon the school as a child minder rather than as an agent needing the active co-operation of parents in the development of thinking skills.

Had parents and children researched the fire trails problem, then presented a petition, the Council would have received a document that would have specified the need, likely usage of the proposed facility, the alternatives, rough estimate of costs for each of several alternative sites as well as the benefits of each site. Such a document, because of the obvious research expended and sincerity of the applicants, would demand serious attention. One could expect a reply of at least equal quality with both sides able to evaluate the arguments of the other until eventually a mutually acceptable arrangement is made. This process leads to strengthening of mutual respect and reduction of rebelliousness through empowerment of the young. Not the least advantage would be that direct and destructive action would have been the last alternative, not the first.

A well researched petition would have had many advantages

Public Speaking

Involvement in Organisations that Improve Conversation

Another component of cognition ignored in our society is speaking. A significant number of young people seeking learning help at our centre also find it difficult to communicate clearly. Poor verbal vocabulary is most often associated with a poor written vocabulary. I have found that the more limited a persons verbal vocabulary is the less likely that person is to interact with significant adults who are able to extend that individuals cognition. Discussing ideas with others helps to develop opinion and encourages general development in thinking style. Paula, an adult client, was timid, shy and possessed little confidence in herself. Her vocabulary was limited and her thinking style was poorly developed. Paula had very few opinions of her own and her conversation was rather superficial. As a part of her cognitive improvement, I suggested that she join Toast Masters. There she learnt how to structure her spoken word. She also discovered that she required a richer vocabulary. This was achieved by encouraging her to read more books and magazines. In order to make reading a

Using an agency that helps extend vocabulary, public speaking and logic

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pleasure for Paula, strategies were developed. Public speaking practice at Toast Masters made Paula more confident in talking to more people of developmental significance to her. She began to develop and then share her opinions and philosophies with her peers and older adults. Counter opinions were then fired back at her which forced her to think through the concepts supporting the new alternative opinion. She became aware that she needed to look for the logic related to the new view point. As a result, Paula became practiced at analysing, evaluating, and criticising alternative view points. Research skills increased as Paula had need of validating incoming ideas and concepts.

Learning Conversational Logic

Many clients with learning difficulties have not had the opportunity of extended conversation at home. In many homes today, conversation is not an important part of the family agenda. Everyone in the family is involved in his or her own activity. Most leisure time is spent with peers or watching television or videos. Watching television does not provide the viewer with the practice in developing personal logical argument and one's peers do not always have the experience to provide practice. As a result of this deficiency in the home social structure, many young people do not ever have the opportunity of developing the concepts of logic. At school there is not sufficient interaction time for this to develop as this is a time consuming task and the teacher is always pressed to achieve other curriculum goals.

Conversational skills are a problem for many young people

Organisations such as Toast Masters bring young people together with significant older folk who are able to model clear thinking. It is not often understood by many young people who come to my centre that an argument must have a premise linked to a conclusion by clear detailed pathway in thinking. By exposing themselves to constructive critical analysis at Toast Masters, they soon learn the deficiencies in their argumentation and develop skills in constructing a logical argument.

Many do not understand that argument must have a premise linked to a conclusion by a clear pathway of thinking

An example of a person facing this dilemma was the case of a young woman who was having relationship problems with her young husband. She maintained that since Adam in the biblical account was not able to resist the temptation of taking the apple from Eve, that this proved that men were

People often accept a weak premise and/or pathway to "prove" a conclusion they believe in. Even arguments based on Biblical facts require logical

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weak and easily lead. Since men had been recorded as pathways
 having a history of making poor decisions, she maintained
 that husbands should take a lot more notice of their wife's
 advice. It took me some time to convince her that she was
 promoting a fallacious argument. It was not clearly apparent
 to her that in the case that she cited it was the wife of the
 particular husband whose advice he was acting upon. The
 pathway between her premise and conclusion was weak.

Constant conversational interaction is needed to develop
 logic but our society today provides little interaction. With
 the introduction of the Internet, however, such practice may
 be enhanced if the young person encounters other logical
 thinkers. However, this is not guaranteed.

Society today provides
 little conversational
 interaction

Learning Sequential Thought

Many young people I have been involved with find it difficult
 conversing in coherent sequential thought processes. Many
 appear to communicate in ad hoc snippets of information
 punctuated by a great many sound effects. The act of public
 speaking forces an individual into developing complete
 concepts. At one time, young people had the opportunity of
 developing ideas and concepts in front of church groups,
 scouts and guides. Today, most young people will have little
 to do with corporate social organisations like these. Most
 young people believe they want complete freedom from
 organisations. However, the discipline that these
 organisations gave many young people provided them also
 with the discipline of sequential thinking which provided
 them with the concept of cause through to effect. Toast
 Masters and other service organisations do provide a good
 role model for sequential and logical thinking without
 encroaching upon the individual's total life style.

There are some social
 organisations that help
 overcome the
 inadequate
 opportunities for
 developing logical
 thinking

Learning to Anticipate

When an individual develops logical and sequential thinking
 styles, the world begins to take on some order and meaning.
 The individual is able to observe certain patterns in life
 around which the individual is able to measure him/herself.
 For example, concepts of right and wrong have logical
 relationships to everyday activities in life. Therefore, one is
 able to anticipate more easily the results of one's actions,
 either physically or verbally.

Logical thinking styles
 show order and
 meaning in the world

In understanding verbal logic, young people are more able to

Young people often
 angry when their

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anticipate the reaction that an exam marker will have to an answer given. The deficiencies in verbal logic and sequence lead many young people to believe that their communication is quite adequate and are often dismayed and angered by the results they get in examinations because they believe their answers to be quite adequate. Such individuals are good examples of people who have little interaction with significant others requiring precise responses

ordinary communication proves inadequate to examiner

Learning About Patterns of Other People's Thinking

To many young people, it is a revelation that people are able to have a variety of viewpoints and yet can still all be considered correct. These same young people also believe that there is only one correct answer for responses to any examination question. This prevents them from personalising their learning and becoming a significant part of the ongoing development of knowledge in the world. So many young people have little connection to what they are learning that it is difficult for them to become motivated. Association with Toast Masters, Church, Salesmen With A Purpose (youth division), Rotary or Lions all provide the same developmental training and that is to participate in serious verbal/cognitive development.

Many people think every problem has only one acceptable answer and are therefore unable to personalise learning

On-going interaction with the community, through verbalising ones opinions, continues to provide an individual with a wider forum of debate in order to develop more sophisticated and fine tuned thinking styles.

Verbalising opinions develops more sophisticated thinking styles

For many people having difficulties in thinking and learning, my guidance in these matters helps individuals to develop in an outstanding way. So many people do not understand what social experiences are needed to develop optimum performance.

My advice relating to languaging has helped many people make outstanding improvements

Teaching Social Cognition at School

The cognitive function within the body can be divided into autonomic and semi-autonomic cognitive function and conscious thought which is social cognition. Autonomic reflex reactions that are a part of the genetic development of the human body are developed before birth, such as stimulus-response, heart beat and breathing which are a part of an individual's cognitive process as these can be

The relationship between autonomic function, semi-autonomic function and social cognition

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controlled and over-ridden by conscious thought. Semi-autonomic functions are environmental experiences which have been passed through conscious thought through limbic system to become semi-autonomic. The limbic system is the part of the brain that interfaces between conscious thought, semi autonomic and autonomic functions. For example, touching a hot stove the message is recorded in conscious thought processes but passes through the limbic system to become a semi-autonomic reaction to the stove in the future. However, the concern for education is not only the development of social cognition but also how the concepts of thinking can have an effect on the autonomic and semi-autonomic functions of the body, either promoting biochemical efficiencies or inefficiencies.

In view of the importance of cognition, and its relationship to the well being of the human person, it is outstanding that only in a very limited way has social cognition has been learned as a subject in the education system. Philosophy and logic have probably been the closest to directly teaching cognition but this has been carried out in a very narrow field and for people who choose it.

Social cognition seldom taught as a subject in the education system

Before the industrial revolution, most education centred about the apprenticeship style of teaching. The apprenticeship approach, while primarily focused on function, also provided cognitive training as the student could model the thinking style of the master. Both master and student lived together and did everything together and therefore the master was almost like a parental model. The master and apprentice bonded together in their relationship. The master was as proud of the apprentice's achievements as the apprentice himself (most were in fact male). This is evidence of the emotional unity between master and apprentice. Cognition was being taught, even then it was not a conscious part of the curriculum. Being mostly unaware of the role of cognition in education has led many people to believe that the processes of cognition develop without having to be learned.

Most people think cognition develops without having to be learned

Due to the uneven development of cognition over the centuries, educationalists have been led to believe that people either have the ability cognitively or do not have refined cognitive skill. In fact

Many believe cognition is innate

“Chomsky (1980), Foder (1983) and Gardner (1984) have expressed the belief that cognition is the distinct mental analog of biological organs, each with its own

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genetically determined structure and process.”
(Richardson, 1991, p115)

Therefore, as social changes have occurred, little regard has been given to how social change has affected an individual's cognitive development.

At the beginning of the industrial revolution in Europe and England, there were mechanisms for the development of social cognition. Debates in the town square were common and involved interaction with those listening. The entertainment of the day was to sit around in the evenings and tell stories and discuss issues. All this modelled cognitive processes to the young. Even with these social mechanisms, cognitive development was still uneven within the community. Those who were wealthier had more time to interact together. The desperately poor seldom had the privilege of time in which to develop such skills. Often, the father would have to work very long hours and therefore would need to sleep while at home. Children worked as well and frequently the hours did not coincide with the working hours of their parents. Such children had little time to interact with the adults with whom they worked as all the workforce was driven towards maximum output. Women in many social classes, except for the upper class, had little opportunity to enter into community discussion as they were considered to be home workers and by and large bound to it. The men in all classes had greater opportunities than women generally and hence it was often believed that men were more intelligent than women. Therefore, the males took the dominant role in making decisions for the family and women became known as dependants.

Early industrial
revolution European
men had frequent
opportunity to develop
cognition

However, today we know that men and women are of equal significance in an intellectual sense. Therefore, there must be a reason for this change. I believe that this is an evidence of the role of cognitive development and its accessibility to the populace. Today, we recognise that many girls at school pursue their education in a more focused way than many males due to the social idealism of women's equality. My Hornsby Centre services the upper middle class to upper class of Sydney. 75% of clients requiring educational assistance are males. Many of them are poorly motivated. Most of the 25% of clients who are female come to the Centre for improvement and sharpening of their abilities rather than for learning difficulties or lack of motivation. The duration of remediation for females who have actual difficulties is usually less than for the males as they appear to have more

Nowadays girls
generally pursue
studies in more
focussed way than
boys

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motivation to succeed than their male counterparts. Such a shift in cognition cannot be purely a shift in genetic attributes but must have a social basis.

Connell et al support this concept. In their study of the western suburbs of Sydney where young people who had access to more education ended up being better thinkers than their parents thus making a social and emotional gap between parent and child. However, many of the young people, due to the lack of social backing from their families, crumbled under the academic opportunities provided for them. This, I submit, is due to ineffective modelling by their society. However, those who bond with teachers who come from another socio-economic group often have the chance of elevating their cognitive status beyond their own social influence.

Inadequate modelling
proves to have telling
consequences

While the effect of cognitive development, or the lack of it, can be observed historically, little conscious thought has been given to its effect throughout quickly changing social contexts since the industrial revolution.

Little thought has been
given to effect on
cognitive development
of quickly changing
social contexts

During mass education of young people towards the end of the industrial revolution, society provided opportunity for cognitive development through frequent public forums which were a more sophisticated version of debates in town squares. This was the age of the big tent public meetings where adventurers, academics and religious people would air their views. Thus, people within society were motivated to pursue the thinking styles presented in order to validate what they had heard. Family discussion would centre around analysing, evaluating and criticising the concepts.

At end of industrial
revolution there were
public forums that
nurtured cognitive skills

After the first world war, both the car and movies tended to draw families away from local interaction. Movies especially replaced the public meeting with entertainment with no interactive participation. This tended to separate people in the world of their own minds. The significance of the material dealt with was not so important that it would become the centre of discussion. The car, while it initially brought nuclear families together, separated the extended family. This significantly reduced the exposure each person has to varied thinking styles. However, modelling still occurred even in the nuclear family. Through all this social change, the school system could not be relied upon to overtly develop cognition as its preoccupation was with information management.

After World War I there
was less opportunity for
cognitive development

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While society's learning institutions were becoming engrossed in information management, progressively technology in society was inhibiting a persons access to cognitive development. Television, computer, video and the socioeconomic need for both mother and father to work have progressively had the tendency to drive individuals within families apart. Children, today, interact more meaningfully with their peers than their parents. However, peers are just as inexperienced as each other and are not good cognitive role models for each other.

Modern technology inhibits access to cognitive development

In more recent educational development, there is a drive to make students think. The exploration techniques of teaching are designed to do this. Many of the design and technology courses are designed to cause students to use thinking strategies. However, the huge problem in this approach is that, in a society insulated from each other, the children in the first place have not been previously taught thinking strategies but the thinking strategy development is not supplied with the thinking oriented assignment.

Lack of thinking skills an obstacle to school courses

Educationalists can be excused for that. The very premise upon which most educational theory is based is innate ability. This is the problem with the Darwinian approach, it describes a situation which does not exist observationally. Most believe that what students need is stimulus material in order to stimulate latent ability. In my work over six years, I have provided reasonably good evidence that those who are struggling are able to work at efficient academic levels of performance if the absent cognitive skill is developed.

Evidence of my clients is that cognition can be taught and when taught improvements occur in school work

It cannot be pretended that in the past while cognitive development was more available in society through personal interaction to the developing young, that it was developed more evenly throughout the wider social context. In fact the social separation among the haves and have nots was much greater in times gone by. However, there was one difference. If children years ago were failing at school, it was suggested that the individual leave school and seek work. While it was not understood that the child was not coping at school due to cognitive skill deficiencies, the failure measure was a good barometer for warning of deficient skills that precluded the student from proceeding further with learning. The actual reaction to the situation was that the individual just did not have the ability. This act released the person from the world of discreditation and failure. In the workforce, the individual was most likely placed in the hands of a successful adult who would bond with the learner in an apprenticeship

If, years ago, children did badly at school they learned in the world of work.

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relationship. In this environment, the cognitively deficient individual was able to learn from the master/supervisor the cognitive skills that helped the individual to finally succeed in life. Many early school leavers actually become very successful people in the long-run. Such individuals were not turned off from learning but merely diverted their learning in another direction.

At one time, there were many outlet points from the school system. Sixth class was once a jumping off point for many people. Then third year high school was another and the fifth form and finally Year 12. Today, these natural outlets from school have been closed. Students are expected to remain longer at school. To overcome bottlenecks in the progression from one year to the next, in a system where there are very few chances for a student to leave school, the unconscious effectiveness of exams as a barometer for gauging cognitive development deficiencies has been taken away and so has early entry into the workforce which was once the mechanism that society unconsciously possessed for remediating such deficiency. Exams are taken but the significance of the warnings that they give, for most educators, is not heeded as educators for the most part have not understood the significance of cognitive development and learning. Students are pushed through the system often being discredited when they do not possess the cognitive skills to cope. By forcing the student to remain at school, the student is not being actively exposed to the cognitive modelling available in the work place, that is so much needed for that individual. In the mean-time, the school is not providing, in a sufficiently overt way, the cognitive development required but worse is blaming the student for the failure to cope.

While there is now an emphasis in New South Wales schools to encourage students to think, the sheer volume of information to be covered in the curriculum makes it almost impossible for students to gain sufficient practice in any one aspect of thinking. By cramming so much into the curriculum, both teachers and students begin to treat the information at a superficial level thus wasting the opportunities, in a thought provoking way, to dig deep into topics at hand.

Courses seem to proliferate in our education system in New South Wales. It appears that educators believe that we must

A large percentage of school students now stay to the final year of the system

The volume of information interferes with the time needed to adequately practise aspects of thinking

There is too much emphasis in schools on

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offer as much information as we can in order to make the student aware of all there is to know. Information dissemination seems to be the aim of our present education system. The problem here is that much of the information we learn today is obsolete tomorrow. Teachers end up chasing ever moving targets of new information and even then are still out of date. While the students are busy learning the information, they are not being as well taught how to obtain new information and then have the ability to process it. Many students visiting my centre come from schools where their notes are cloze²⁸ exercises. This means that the teacher recognises the enormity of volume that needs to be covered and uses this technique to speed the process on. These students have no idea of how to access the information for themselves. In addition, by insufficient involvement in collecting the information find it very difficult to learn as they have no access to the background to the topic. Neither do they know how to make notes from more voluminous work.

teaching information

By trying to teach a great volume of information as educators we are doing it less well. We are not preparing students for managing information which is a most necessary skill for the workforce of the future. By providing such a wide smorgasbord of information students will tend to concentrate on those areas that interest them. This has a tendency to lock people into particular modes of thinking particular to that interest.

Managing information
is much more important
than knowing
information

Instead of teaching students what to learn, the education system needs to be concentrating on teaching students how to learn, how to manage information, how to think about information and how to communicate information. These are the only permanently relevant skills that a student will identify as being useful in their future work and lifestyle involvement. Many students coming to my Centre view school as being irrelevant to them as they are denied specific subjects that they believe are preparing them for their life work. Due to the size of the school or the popularity of the subject, many students miss out on what they believe to be relevant to their future. Trying to cater for individual interests is an impossible task. It is costly and in many cases cannot be successfully supported by the education system. A few educators receive accolades for flamboyant

How to learn, how to
manage information,
how to think, how to
communicate are much
more important than
information

28 A cloze exercise prints a sentence with some words left blank, the student must supply the appropriate word.

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and imaginative programs. Such programs can often be more related to the needs of the educator than responsibly of meeting the needs of the learner.

To restore relevance to education, we must demonstrate to the learner that we are providing him/her with skills that enable him/her to cope with whatever (s)he must encounter through their life, in which learning will be the centre whether they realise it now, or not. Adults who come to my centre are there to update the cognitive skills that they had poorly developed through their schooling years. These adults, on completing ²⁹TAFE or University had expected not to face a formal learning situation again. With the advance of technology and changing job descriptions at an ever increasing rate adults of today are realising that unless they continue to learn their jobs have no security in the future. The payroll department of TAFE at the present time has become computerised which means that one in five office workers within the TAFE system are facing redundancy if they are not prepared to retrain and do courses that make them useful to their employer. As a result a number of TAFE employees realise their need of enhanced thinking and study skills to ensure a productive and secure future, both in their courses and future work. The prospect of continuous learning in the future is not just a fanciful theory but is with us today. Unfortunately, the school system is not necessarily preparing students to expect ongoing learning but in targeting inappropriate learning matter is discouraging many from ever wanting to learn again.

It has started already,
people must learn
throughout life

After leaving a course in cognition development at my Centre, students who hated school begin, for the first time, to enjoy the subjects they have previously despised. Many of these students have risen to the top of their year after being well down towards the bottom before they came to me. This matter is supported by tape conversations with randomly selected parents whose children have experienced cognitive development.

Cognitive development
changes the attitude of
students

Suggestions for Change

Cognition can only be fine tuned to the degree in complexity and sophistication of a person's languaging skill. The

Sophistication of
thinking depends on
sophistication of

²⁹ Technical And Further Education, TAFE.

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pathways of thinking depend upon language to describe the variables that thinking needs to take. If a person's languaging skills are limited in terms of vocabulary that possesses an exactness of expression, the thinking process is limited to that degree of sophistication. If, for argument's sake, an individual contained in his/her vocabulary only the concepts of "stop" or "go" that person would not be able to think about the range of variables that are possible to occur between those two extremities. This, in turn, could inhibit a person's ability to be able to analyse the concept of speed as the concept of movement appears to only have a stimulus-response opportunity. If we add to "stop" and "go" the concepts of acceleration and deceleration this provides us with the opportunity of more intricately analysing the form in which we wish the stop and go to occur. The addition of just these two words to the vocabulary allow us to analyse, evaluate, sequence and anticipate. This example could be extended but it already illustrates the improved cognitive capacity that an individual is able to attain through more complex languaging.

language

Language itself is a cognitive construct of the mind that provides a certain anticipated order of meaning. M. A. K. Halliday, in his research of language, has discovered that in a "normal" sentence people refer to first *things*³⁰ then *events* and *circumstances*. This order is most often used in that it is our cultural habit to first describe the *thing* that is to be spoken, or written, about. The event in which the *thing* participates is then revealed. The *circumstance* for the event is then related to another *thing* or *event* which is described in the *circumstance* model to describe relationships. This knowledge of languaging enables one to observe patterns in communication thus establishing the cognitive skills of anticipation and rule induction. Such cognitive skills assist one to language without having to consciously analyse every sequence of text on a word by word basis. This frees the mind to apply the overall concepts to other thinking structures simultaneously with comprehension.

Some advantages of knowing that, in our culture, the most common pattern of sentence is thing followed by event followed by circumstance

For complex cognition to occur, a great deal of attention is necessary to first establish the rules of the language in which the codes of cognition may be sequenced. The codes of cognition are embedded in our language as instructional

The codes of cognition are embedded in language as instructional terms

³⁰ To distinguish between the technical and non-technical use of the words thing, event and circumstance they will be printed in italics when the technical sense is meant.

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terms. For example, the word “analyse” is an instructional cognitive code demanding that an issue is to be dissected into its ideas, then each idea is to be viewed from both a negative and positive point of view in terms of authoritative sources outside ones own view point. In assessing the validity of each idea from authoritative view points the idea is accepted or rejected. This single word has encapsulated in it an intrinsic procedural pathway for the mind. For the complex encapsulated command to be handled, the pattern of language must have reached a semi-automatic status. This is why small children find it difficult to follow an adult argument as it contains encapsulated commands that ask the listener to carry out a particular cognitive function. Since the child has not yet mastered the pattern of the basic language it most certainly would find it difficult to add another function on top of basic language development.

At present, many English teachers are instructed by the syllabus to improve each students communication within the context of a multiplicity of communication styles experienced among and between subcultural groups. This concept encourages the student to look at the differences of language output rather than the re-occurring patterns that are common to all subcultural groups and that make meaning possible to all those groups. The common linguistic pattern among all groups is known as basic grammar. Even with the latitude in language study incorporating the multiplicity of colloquial construction, from personal experience most classes I have encountered spend a disproportionate amount of time on the student’s own subcultural construction at the expense of more sophisticated languaging that leads to more complex cognitive function.

Basic grammar, which is the basis of common cognitive function, needs attention before cultural differences are studied. Attention needs to be given to the commonality of communication so that the entire culture is able to efficiently and effectively communicate across the board. This common social cognition is the language of academic learning, commerce and any other important communication outside one’s cultural group. I must not be audacious to the extent that I expect all people to embrace the understanding and meaning of my particular sub-cultural group but be respected and understood when I communicate with them. Therefore, all people within a major cultural group need to respect each other by communicating in the common tongue. For effective communication, we need to teach a common standard that will be acceptable to all sub-groups of the

School curriculum aims to improve communications within each cultural sub-group but should work on the language patterns that are common to all subgroups

Each major cultural group depends on having a common grammar

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culture.

I would propose that grammar is taught in conjunction with cognitive skills awareness so that each individual is able to see how thinking works within the culture and how to work thinking.

Grammar should be taught in conjunction with cognition

For each subject the major cognitive skills need to be identified and in teaching that subject the cognitive skill should become the major focus rather than the information. Information needs to be seen merely as a vehicle for teaching cognition. For example, the study of a novel can be couched in many frames of mind. The novel could be analysed, evaluated, criticised or commented upon. Before the task is assigned, each skill to be used needs to be formally taught and then applied to the novel. The information arising from such an exercise then needs to be applied to the student's own life in terms of developing a philosophy. The philosophy may arise from the content of the novel or it may arise from the structure of the novel or indeed from many other aspects. Analysis leads each individual to be impressed by many and varied features discovered by the analysis. The application of the analytical results is extremely important as this personalises the cognitive skill and proves its usefulness to enrich the student's future endeavours.

For each subject schools should:

- Identify cognitive skills needed
- teach those skills
- Teach information only as needed to develop cognition
- Apply the new skills to studying self or things related to their own lives

The cognitive style of teaching involves a complete change in emphasis from information management to cognitive development. However, while this change would be dramatic and extensive, it would retain the existing major subject divisions. The maintenance of subject divisions draws upon the special interests of experts but makes them more aware of the cognitive functions that are necessary in their own discipline. The teacher would also need to be aware of the pre-requisite cognitive functions that would need to be developed before an individual could effectively cope with that subject. This would help the teacher assess non-performance results in terms of remediating basic cognitive deficits. The basic cognitive functions referred to include those cognitive skills that should be learned between birth and five years of age, for example shape discrimination, direction, tracking, sequencing and the like. These skills will be referred to later in this thesis.

To teach any subject teacher must know the cognitive skills used therein

With an emphasis on cognitive awareness, teachers and students are more likely to act metacognitively. This is an ability to understand the processes of thinking, analyse the process for its efficiencies and inefficiencies and then to

Metacognition leads to enjoyment and continuing desire to learn

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modify the cognitive style with an improved version. In this way, students will begin to enjoy learning as each student is taught how to handle the subject material before the material is presented. As the student is enabled to cope with the subject material by perfecting the cognitive process, this will inspire the student to pursue that subject for life rather than just meet the requirements of the school.

Teaching from this point of view assists the learner to cope with continual change and to strategise for it both cognitively and from the point of view of particular subject orientations. Such skills are needed in an era where the volume of information is greater than any one person can carry.

Teaching cognitively prepares students to be able to handle future changes

Chapter Conclusion

A cognitive emphasis in learning subscribes to consciously equipping people to cope with the incoming stimuli of the environment and thus enabling people to make personal sense of it. Learning becomes a matter of personal ownership rather than the regurgitation of other people's perceptions of the incoming interpretants. This type of education is possible today due to the technological advances allowing the learner to observe outside that person's environment. If the thing to be learned is local interaction is the best form of learning. However, if the individual has not mastered the cognitive functions to facilitate such learning, the learner would be lost accessing learning through a cognitive approach.

The cognitive approach also demands closer family bonding and requires parents to be much more involved and conscious of their part in the developmental process.

Greater parent involvement in education also indicates a need for more organised and meaningful parent preparation.

A more sophisticated technological environment requires more sophisticated cognition to cope with it. Unfortunately, many participants of our society are becoming less sophisticated in cognitive processes because of the unwise use of technology and are therefore swallowed by the technologically driven environment due to their inability to cope.